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NATIONAL DAM SAFETY PROGRAM. ALDER POND DAM (INVENTORY NUMBER N--ETC(U)
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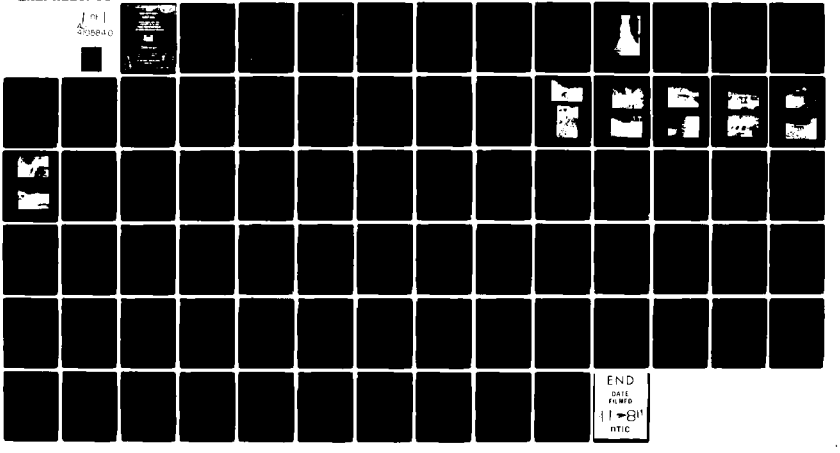

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REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
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4. TITLE (and Subtitle) Phase I Inspection Report Alder Pond Dam Black River Basin, Oneida County, N.Y. Inventory No. 1489	5. TYPE OF REPORT & PERIOD COVERED Phase I Inspection Report National Dam Safety Program / 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) (10) GEORGE KOCH	8. CONTRACT OR GRANT NUMBER(s) (15) DACW51-79-C-0001
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16. DISTRIBUTION STATEMENT (of this Report)

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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) (6) Pond

National Dam Safety Program. Alder Dam (Inventory Number NY 1489), Black River Basin, Oneida County, New York. Phase I Inspection Report.

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Dam Safety
National Dam Safety Program
Visual Inspection
Hydrology, Structural Stability
Alder Pond Dam
Oneida County
Black River Basin

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization.

Visual inspection of this dam and engineering analyses performed did not reveal conditions which constitute an immediate hazard to human life or property.

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

The outflow capacity at this structure is inadequate for the peak outflow from one half the Probable Maximum Flood (PMF). However, a dam break analysis indicates that a dam failure resulting from overtopping would not significantly increase the hazard to loss of life downstream from that which would exist just prior to the failure. Hence, the spillway is assessed as inadequate ever though this dam does not have a spillway in the visual sense.

Several minor deficiencies were noted on this structure. Among the actions required are brush and trees growing on the dam embankment should be cut, areas of minor sloughing on the upstream slope should be repaired, and an emergency action plan for the notification of downstream residents should be developed. These actions should be completed within 6 months of the date of notification of the owner.

PREFACE

This report is prepared under guidance contained in the Recommended Guidelines for Safety Inspection of Dams, for Phase I Investigations. Copies of these guidelines may be obtained from the Office of Chief of Engineers, Washington, D.C. 20314. The purpose of a Phase I Investigation is to identify expeditiously those dams which may pose hazards to human life or property. The assessment of the general condition of the dam is based upon available data and visual inspections. Detailed investigation, and analyses involving topographic mapping, subsurface investigations, testing, and detailed computational evaluations are beyond the scope of a Phase I Investigation; however, the investigation is intended to identify any need for such studies.

In reviewing this report, it should be realized that the reported condition of the dam is based on observations of field conditions at the time of inspection along with data available to the inspection team. In cases where the reservoir was lowered or drained prior to inspection, such action, while improving the stability and safety of the dam, removes the normal load on the structure and may obscure certain conditions which might otherwise be detectable if inspected under the normal operating environment of the structure.

It is important to note that the condition of a dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the dam will continue to represent the condition of the dam at some point in the future. Only through frequent inspections can unsafe conditions be detected and only through continued care and maintenance can these conditions be prevented or corrected.

Phase I inspections are not intended to provide detailed hydrologic and hydraulic analyses. In accordance with the established Guidelines, the Spillway Test flood is based on the estimated "Probable Maximum Flood" for the region (greatest reasonably possible storm runoff), or fractions thereof. Because of the magnitude and rarity of such a storm event, a finding that a spillway will not pass the test flood should not be interpreted as necessarily posing a highly inadequate condition. The test flood provides a measure of relative spillway capacity and serves as an aide in determining the need for more detailed hydrologic and hydraulic studies, considering the size of the dam, its general condition and the downstream damage potential.

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
ALDER POND DAM
I.D. No. NY-1489
127A-4417 BLACK RIVER BASIN
ONEIDA COUNTY, NEW YORK

TABLE OF CONTENTS

Phase I Inspection Report
National Dam Safety Program

Name of Dam:	Alder Pond Dam
State Located:	New York
County Located:	Oneida
Watershed:	Black River Basin
Date of Inspection:	October 16, 1980

ASSESSMENT

Visual inspection of this dam and engineering analyses performed did not reveal conditions which constitute an imminent danger to human life or property.

The outflow capacity at this structure is inadequate for the peak outflow from one half the Probable Maximum Flood (PMF). However, a dam break analysis indicates that a dam failure resulting from overtopping would not significantly increase the hazard to loss of life downstream from that which would exist just prior to the failure. Hence, the spillway is assessed as inadequate even though this dam does not have a spillway in the visual sense.

Several minor deficiencies were noted on this structure. Among the actions required are brush and trees growing on the embankment should be cut, areas of minor sloughing on the downstream slope should be repaired, and an emergency action plan for the notification of downstream residents should be developed. These actions should be completed within 6 months of the date of notification of the owner.

George Koch
Chief, Dam Safety Section
New York State Department
of Environmental Conservation
NY License No. 45937

APPROVED BY:

Col. J.M. Smith Jr.
New York District Engineer

DATE:

17 JUN 1981

OVERVIEW
ALDER POND DAM
I.D. No. N.Y. 1489

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
ALDER POND DAM
I.D. No. NY-1489
127A-4417 BLACK RIVER BASIN
ONEIDA COUNTY, NEW YORK

SECTION 1: PROJECT INFORMATION

1.1 GENERAL

a. Authority

The Phase I inspection reported herein was authorized by the Department of the Army, New York District, Corps of Engineers, to fulfill the requirements of the National Dam Inspection Act, Public Law 92-367.

b. Purpose of Inspection

This inspection was conducted to evaluate the existing conditions of the dam, to identify deficiencies and hazardous conditions, to determine if these deficiencies constitute hazards to life and property, and to recommend remedial measures where required.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam

The Alder Pond Dam is an earth dam with a feeder canal which acts as an outlet channel.

The dam is approximately 550 feet long and about 15 feet high. The crest of the embankment is extremely wide averaging over 50 feet. Both the upstream and downstream slopes of the embankment are relatively steep (1 vertical on 1 horizontal). The upper portion of the upstream slope is grassed. There is timber sheeting driven into the pond along the lower portion of the upstream slope.

The Black River Feeder Canal (Forestport Feeder) begins at the left end of the embankment. The canal has a trapezoidal cross section with a bottom width of 33 feet. There is a concrete control structure located in the canal side embankment about 150 feet downstream of the dam. This structure can act as a spillway, allowing water to flow out of the canal and into the Black River. Stop logs in this control structure are used to provide some regulation of flow.

There is a gated diversion structure located about 600 feet east of this dam which regulates the portion of inflows to this reservoir which come from the Forestport Reservoir. This structure consists of 3 vertical slide gates controlled from a gate house directly above the diversion structure. Water flows along a canal and enters Alder Pond near the right end of the embankment.

b. Location

This dam is located in the Town of Forestport, Oneida County. It is just off Dutch Hill Road and is about 1/4 mile south of the Village of Forestport.

c. Size Classification

The dam is 15 feet high and has a maximum storage capacity of 61 acre feet. Therefore, the dam is in the small size category as defined by the "Recommended Guidelines for Safety Inspection of Dams."

d. Hazard Classification

The dam is classified as "high" hazard due to the presence of several houses located immediately downstream of the embankment.

e. Ownership

This dam is owned by the New York State Department of Transportation, Waterways Maintenance Subdivision. It is located in DOT - Region 2, whose headquarters are in Utica, New York. The addresses of the Main Office and the Regional Office are as follows:

New York State DOT
Main Office - State Campus
1220 Washington Avenue
Albany, NY 12232
Mr. Joseph Stellato
Director
(518) 457-4420

New York State DOT
Region 2 Office
State Office Building
207 Genesee Street
Utica, NY 13501
Mr. Frank Jennings
Regional Waterways Maintenance Engineer
(315) 797-6120

f. Purpose of Dam

The dam was constructed to provide water for the Black River Canal. The reservoir is now used to divert water to the DOT Barge Canal via the Black River Canal feeder.

g. Design and Construction History

This dam was reportedly constructed around 1850. No design or construction information was available for this structure.

h. Normal Operating Procedures

There are no established operating procedures for this structure. Stop logs are placed in the concrete control structure and the gates on the diversion structure from Forestport Reservoir are opened when additional water is required for the Barge Canal.

1.3 PERTINENT DATA

a. Drainage Area (sq. mi.)	5.18
b. Discharge at Dam (cfs)	
Concrete control structure at Maximum High Water:	
with stop logs in place	424
with stop logs removed	516
Black River Feeder Canal at Maximum High Water	133
c. Elevations (USGS Datum)	
Top of Dam	1130.7
Bottom of Feeder Canal at Inlet	1124
d. Reservoir - Surface Area (Acres)	
Top of Dam	10.1
e. Storage Capacity (acre-feet)	
Top of Dam	61.1

f. Dam

Type: Earth embankment with timber sheeting on upstream face.

Embankment Length (ft)		550
Slope (V:H)	Upstream	1:1
	Downstream	1:1
Crest Width (ft)		55

g. Spillway

Type: Black River Feeder Canal; Trapezoidal Channel with bottom width of 33 feet; canal extends approximately 12 miles to Delta Reservoir. Concrete control structure located in canal embankment; stop logs can be used to regulate flows in canal.

h. Reservoir Drain - None

i. Appurtenant Structures

Diversion Structure at Foresport Reservoir - 3 wooden slide gates can be used to increase inflow to reservoir. Gatehouse located on top of structure.

SECTION 2: ENGINEERING DATA

2.1 GEOTECHNICAL DATA

a. Geology

The Alder Pond Dam is located in the Black River Valley portion of the Mohawk Lowlands physiographic province of New York State. This is a north-south lowland between the Adirondacks on the east and the Tug Hill upland on the west. Bedrock in this area is generally sedimentary, including limestones, shales and sandstones. The surficial soils and features of the area are the result of glaciations during the Cenozoic Era, the last of which was the Wisconsin glaciation.

A review of the "Brittle Structures Map of the State of New York" indicated that there are no faults in the immediate vicinity of the dam.

b. Subsurface Investigations

No records of any subsurface investigations performed for this structure were available.

2.2 DESIGN RECORDS

There were no design records available for this structure.

2.3 CONSTRUCTION RECORDS

No construction records for this structure could be located.

2.4 OPERATION RECORDS

There are no regular operation records maintained for this structure.

2.5 EVALUATION OF DATA

Data available for the preparation of this report was extremely limited. Most of the information used was based on measurements made at the time of the inspection. The Phase I inspection report was prepared using the limited data plus certain qualifying assumptions.

SECTION 3: VISUAL INSPECTION

3.1 FINDINGS

a. General

Visual inspection of the Alder Pond Dam was conducted on October 16, 1980. The weather was overcast and the temperatures were in the low fifties. The water surface at the time of the inspection was very low with a large sand bar exposed within the reservoir.

b. Embankment

The dam has a very wide crest and steep slopes. The crest is partially grassed but a dirt road along the top of the dam extends across much of the crest. There is grass on the upper portion of the upstream face. Several areas of minor sloughing were noted on this part of the slope. The lower portion of the upstream face has timber planking acting as slope protection. Some rotted and deteriorated timbers were noted, but most were in satisfactory condition.

A detailed inspection of the downstream face was impossible due to the brush and trees covering the slope. There were several houses and other buildings just beyond the downstream toe. A portion of the slope had been excavated, at the left end of the dam for the back corner of a garage. Several swampy areas were noted beyond the toe of the dam, but these appeared to be caused by poor drainage and not by seepage.

c. Spillway - Black River Feeder Canal

The feeder canal acts as a spillway for this structure. The portion of the trapezoidal rock filled channel which was inspected was in satisfactory condition. The visual inspection for this report only went as far as the concrete control structure about 150 feet down the canal from the dam. This structure was in good condition with no deterioration or cracking of concrete noted. There was one stop log each in two of the three bays of this structure.

d. Diversion Structure

The concrete diversion structure located on Forestport Reservoir was in satisfactory condition. There was some minor concrete deterioration noted on this structure. The gates controlling flow were reported to be operational.

e. Reservoir

The pond appeared to be quite shallow. A large sand deposit was exposed in the reservoir near the right end of the dam. Near the left end was a deteriorated wood framework extending from the upstream slope out into the pond. The purpose of this framework could not be determined. The reservoir banks were wooded up to the edge of the pond.

3.2 EVALUATION OF OBSERVATIONS

Visual inspection of the dam revealed several deficiencies. The following items were noted:

1. Brush and trees growing on the downstream slope.
2. A portion of the slope had been excavated for the back corner of a garage.
3. Several areas of minor sloughing on the upstream slope.
4. Minor concrete deterioration on the diversion structure.

SECTION 4: OPERATION AND MAINTENANCE PROCEDURES

4.1 PROCEDURES

This structure diverts water into the New York State Barge Canal as required. Gates on the diversion structure at Forestport Reservoir are opened to increase the inflow to the pond. The water then flows into the Black River Feeder Canal which begins at the left end of the dam. Stop logs are installed or removed from the concrete control structure to vary the flow in the canal.

4.2 MAINTENANCE OF DAM

There are no formal maintenance procedures for this structure. Some routine maintenance is performed as required by the Department of Transportation.

4.3 WARNING SYSTEM IN EFFECT

No apparent warning system for evacuation of downstream residents is present.

4.4 EVALUATION

The operation procedures on this dam are generally satisfactory. The deficiencies noted on the structure are evidence of the need for additional maintenance efforts.

SECTION 5: HYDROLOGIC/HYDRAULIC

5.1 DRAINAGE AREA CHARACTERISTICS

The delineation of the contributing watershed to this dam is indicated on the map titled "Drainage Area Map - Alder Pond Dam (Appendix C). The irregular but somewhat diamond - shaped, northeast - southwest oriented watershed of some 5.18 square miles (3316 acres) is comprised of relatively underdeveloped lands consisting of woodlands, forests, and wetlands interspersed along the primary tributaries to Alder Creek. Slopes along these tributaries are flat (less than 4%). However, the adjacent hillsides have moderate to steep slopes; with those hills forming the watershed divide ranging from 300 feet to 450 feet in elevation above the reservoir. There are no other sizeable bodies of water within the watershed. A gated diversion structure located approximately 600 feet east of the dam regulates additional inflows to this reservoir from the Forestport Reservoir. The Forestport Reservoir which is at an elevation about 3 feet higher than Alder Creek Pond is located directly on the Black River.

5.2 ANALYSIS CRITERIA

No hydrologic/hydraulic information was available regarding this dam. Therefore, the analysis of the floodwater retarding capability of the dam was performed using the Corps of Engineers HEC-1 computer program, Dam Safety version. The computer program develops an inflow runoff hydrograph using the "Snyder Unit Hydrograph" method and then reservoir routs the hydrograph using the "Modified Puls" flood routing procedure.

Although the dam does not have a spillway, the Black River Canal and the nearby concrete control structure were considered as functioning as the spillway. The spillway design flood selected for analysis was the Probable Maximum Flood (PMF), in accordance with the Recommended Guidelines of the U.S. Army Corps of Engineers. The PMF event is that hypothetical storm event resulting from the most critical combination of rainfall, minimum soil retention, and direct runoff to a specific site that is considered reasonably possible for a particular watershed.

5.3 SPILLWAY CAPACITY

Outflows from the reservoir are directed down the canal and can be discharged into the Black River via the stop log control structure. The flow capacity in the canal was analyzed using the Manning's equation for open channel flow. The stop log control structure was analyzed for weir flow using a discharge coefficient, C, of 2.63 (all stop logs removed). The computed total outflow capacity from the reservoir when all stop logs are removed is 649 cfs.

The flood analysis performed for this dam indicates that the spillway capacity is not sufficient for discharging one-half the PMF. For this storm event, the peak inflow and the peak outflow are 2030 cfs. The PMF peak inflow and peak outflow are 3825 cfs and 3740 cfs respectively.

5.4 RESERVOIR CAPACITY

The reservoir is relatively shallow, being approximately 6 feet deep near the embankment crest. The total storage capacity is 61 acre-feet.

5.5 FLOODS OF RECORD

The date of occurrence of the maximum flood at the dam site is not known.

5.6 OVERTOPPING POTENTIAL

Analyses using the PMF and one-half PMF storm events indicates that the spillway capacity is not sufficient. The computed depths of overtopping for these two events are 1.54 feet and 0.88 feet respectively. All storm events exceeding 17% of the PMF will result in the dam being overtopped.

Since the dam is an earth embankment and can be overtopped during large storm events a dam-break analysis was performed to assess the affect in the downstream channel of outflows resulting from non-failure and failure conditions. The analyses indicates that dam failure resulting from overtopping would not significantly increase the hazard to loss of life downstream from the dam from that which would exist just prior to an overtopping-induced failure.

5.7 EVALUATION

This dam does not have a spillway. Outflows from the reservoir are directed down the Black River Canal which has a stop log control structure located approximately 150 feet from the dam. The flow capacity of these facilities is not sufficient for discharging one-half the PMF. A dam-break analysis indicates that dam failure resulting from overtopping would not significantly increase the hazard to loss of life downstream from the dam from that which would exist just prior to an overtopping-induced failure. Therefore, the spillway is assessed as inadequate.

SECTION 6: STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observations

Both the upstream and downstream slopes on this structure were steeper than recommended values. Some minor sloughing was noted on the upstream face. However, due to the relatively low height of the embankment and the wide crest, these oversteepened slopes are not a serious deficiency.

Trees and brush covered the entire downstream face of the dam. There were several swampy areas noted beyond the toe of the dam, probably caused by poor drainage.

b. Design and Construction Data

No information was available concerning the design or construction of this dam.

c. Seismic Stability

This dam is located in Seismic Zone 2. No seismic stability analysis was performed for this report.

SECTION 7: ASSESSMENT/RECOMMENDATIONS

7.1 ASSESSMENT

a. Safety

The Phase I inspection of the Alder Pond Dam did not reveal conditions which constitute a hazard to human life or property. While the embankment slopes are relatively steep, the embankment height is low and the crest is wide. Therefore, the embankment is considered to be stable.

The spillway capacity is inadequate for the peak outflow from one half the Probable Maximum Flood (PMF). However, a dam break analysis indicates that dam failure resulting from overtopping would not significantly increase the hazard to loss of life from that which would exist just prior to the failure. Therefore, the spillway is assessed as inadequate.

b. Adequacy of Information

There was very little information available for the preparation of this report. Most of the information used was obtained from observations and measurements made at the time of inspection.

c. Need for Additional Investigations

No additional investigations are needed at this time.

7.2 RECOMMENDED MEASURES

The following actions should be completed within 6 months of the date of notification of the owner:

a. Brush and trees growing on the dam embankment should be cut.

b. Areas of minor sloughing on the upstream slope should be repaired.

c. Develop an emergency action plan for the notification of downstream residents.

APPENDIX A

PHOTOGRAPHS

Crest of Embankment - Note Road Along Crest

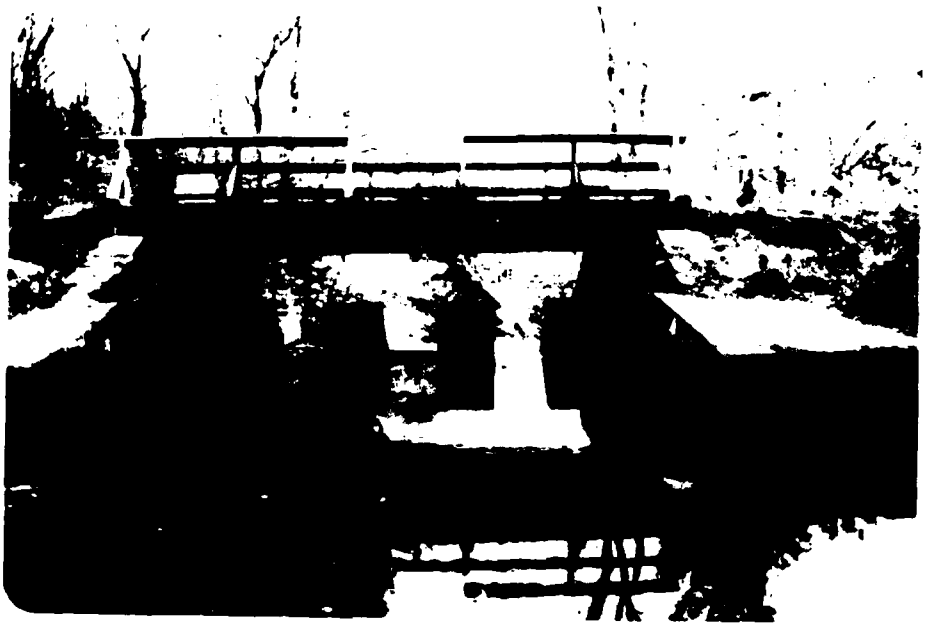
Upstream Slope of Dam - Note Timber
Planking on Lower Portion

Downstream Slope of Dam - Note Trees Growing on Embankment

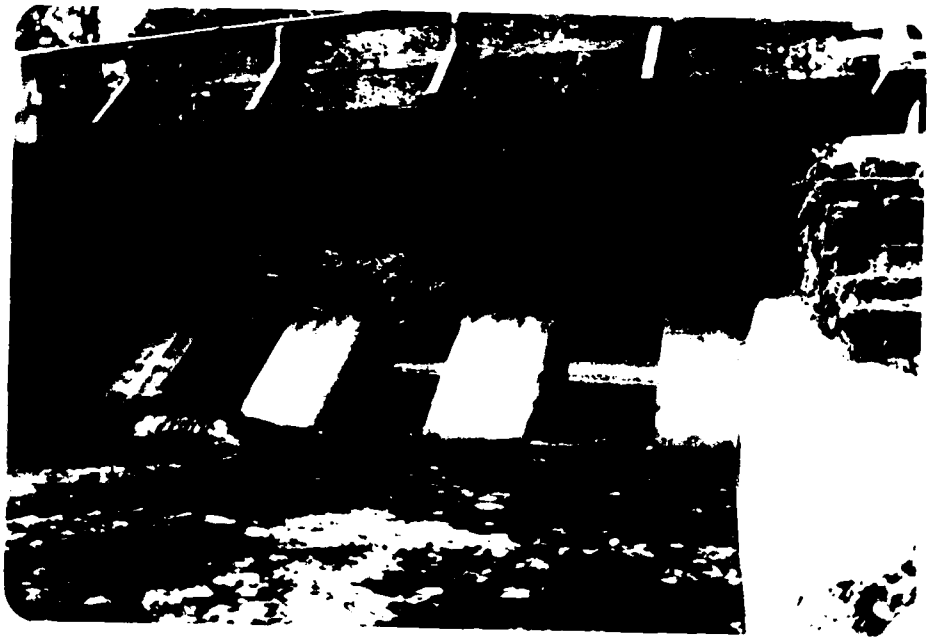
Downstream Toe - Excavation for Garage

Entrance to Black River Feeder Canal
(Forestport Feeder)

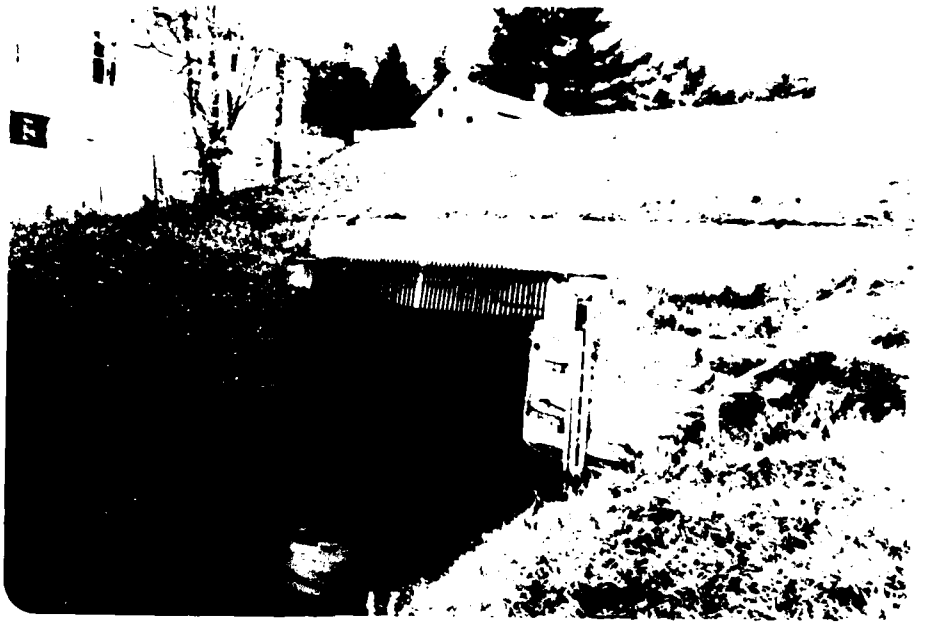
View Looking Upstream Along Feeder Canal
from Concrete Control Structure



Upstream Side of Concrete Control
Structure - Looking Perpendicular to Flow in Canal

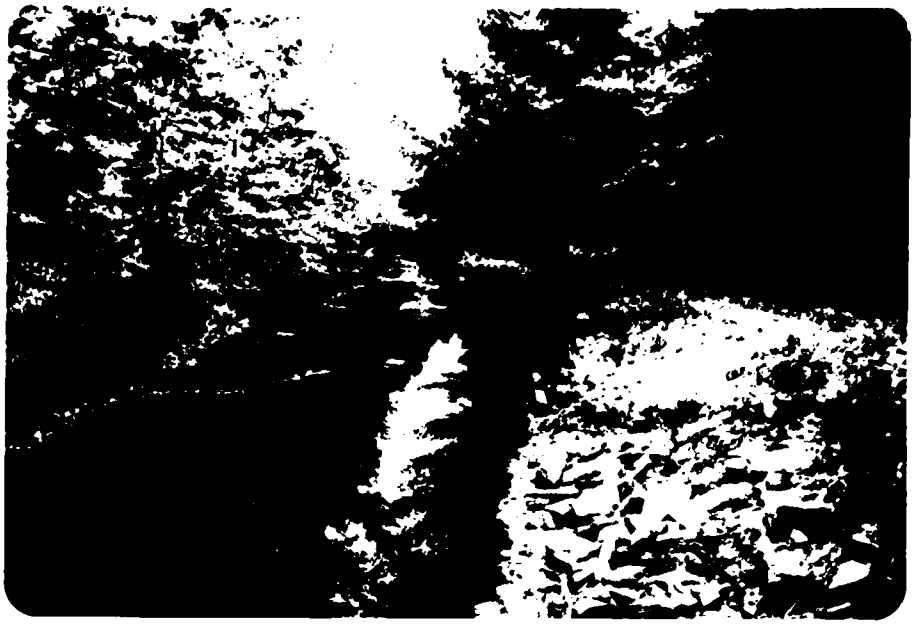


Downstream Side of Concrete Control
Structure



Diversion Structure on Forestport Reservoir

Gates on Diversion Structure which Control
Flow into Adler Pond



Canal Leading from Diversion Structure
to Alder Pond

Diversion Canal's Entrance to
Alder Pond - Note Sand Bar in Reservoir

APPENDIX B

VISUAL INSPECTION CHECKLIST

VISUAL INSPECTION CHECKLIST

1) Basic Data

a. General

Name of Dam ALDER POND DAM

Fed. I.D. # 1489 DEC Dam No. 127A-4417

River Basin BLACK

Location: Town ALDER CREEK County ONEIDA

Stream Name ALDER CREEK

Tributary of BLACK RIVER

Latitude (N) 43° 26.3' Longitude (W) 75° 12.5'

Type of Dam EARTH FILL

Hazard Category HIGH

Date(s) of Inspection 10/16/80

Weather Conditions 50° OVERCAST

Reservoir Level at Time of Inspection VERY LOW W/ NO DIVERSION FROM FORESTPORT RESERVOIR

b. Inspection Personnel R. WARRENDER W. LYNICK

c. Persons Contacted (Including Address & Phone No.)

F. JENNINGS - DOT REGION 2 STATE OFFICE BLDG.
UTICA, N.Y.
(315) 797-6120 EXT. 2443

d. History:

Date Constructed AROUND 1850 Date(s) Reconstructed

Designer

Constructed By

Owner NYS DEPT. OF TRANSPORTATION

2) Embankment

a. Characteristics

(1) Embankment Material GLACIAL TILL (AT HOUSE) LENGTH 550' FROM MAPLE TREE VIC. END OF BRIDGE ABUTMENT WALL

(2) Cutoff Type NONE

(3) Impervious Core NONE

(4) Internal Drainage System NONE

(5) Miscellaneous POND BOTTOM EXPOSED IN VICINITY OF UPSTREAM TOE OF SLOPE

b. Crest

(1) Vertical Alignment SATISFACTORY

(2) Horizontal Alignment SATISFACTORY

(3) Surface Cracks

(4) Miscellaneous EXTREMELY WIDE CREST - ROADWAY & DOT MAINTENANCE BUILDING ON CREST - WIDTH 54' ±

c. Upstream Slope

(1) Slope (Estimate) (V:H) 1:1 (STEEP)

(2) Undesirable Growth or Debris, Animal Burrows NONE - MOWED

(3) Sloughing, Subsidence or Depressions MINOR AREAS OF SLOUGHING (DEPTH ≈ 6") at OR BELOW NORMAL WATER LEVEL AREAS HAVE GRASS GROWING ON & THROUGH THEM

(4) Slope Protection GRASS AT 4.5' BELOW TOP OF DAM
SLOPED TIMBER FACING (NORMALLY SUBMERGED) GOES
DOWN INTO POND BOTTOM

(5) Surface Cracks or Movement at Toe NONE NOTED

d. Downstream Slope

(1) Slope (Estimate - V:H) 1:1

(2) Undesirable Growth or Debris, Animal Burrows LARGE TREES ON
SLOPES AND AT TOE - SOME BRUSH AS WELL

(3) Sloughing, Subsidence or Depressions NONE OBSERVED
ONE AREA WHERE GARAGE [redacted] BACK WALL
WAS CUT INTO EMBANKMENT

(4) Surface Cracks or Movement at Toe NONE

(5) Seepage NONE

(6) External Drainage System (Ditches, Trenches; Blanket)
NONE

(7) Condition Around Outlet Structure NO OUTLET STRUCTURE

(8) Seepage Beyond Toe NONE

e. Abutments - Embankment Contact

RIGHT END - INTO EXISTING GROUND SATISFACTORY
LEFT END - INTO BRIDGE ABUTMENTS - OKAY

(1) Erosion at Contact No

(2) Seepage Along Contact NONE

3) Drainage System

a. Description of System NONE

b. Condition of System

c. Discharge from Drainage System

4) Instrumentation (Monumentation/Surveys, Observation Wells, Weirs, Piezometers, Etc.)

NONE

5) Reservoir

a. Slopes WOODS / TREES TO EDGE OF POND, (EST 1V:10 H) VERY SHALLOW POND

b. Sedimentation EXTENSIVE DEPOSITION OF SAND & GRAVEL ESPECIALLY AT ENTRANCE TO POND FROM INFLOW CANAL

c. Unusual Conditions Which Affect Dam NONE

6) Area Downstream of Dam

a. Downstream Hazard (No. of Homes, Highways, etc.) 4 RESIDENCES AT TOE, 1 HOUSE ON CREST, ROAD DOWNSTREAM, MAINTENANCE BLDG ON CREST

b. Seepage, Unusual Growth NONE

c. Evidence of Movement Beyond Toe of Dam NONE

d. Condition of Downstream Channel N/A

7) Spillway(s) (Including Discharge Conveyance Channel)

OUTFLOW CONTROL IS FEEDER CANAL - ENTRANCE TO CANAL AT LEFT END OF DAM UNDER HIGHWAY BRIDGE

a. General BOTTOM OF CANAL IS HIGH ENOUGH THAT IT WOULD NOT BE POSSIBLE TO DRAIN THE POND TO A VERY LOW DEPTH

b. Condition of Service Spillway STOP LOG STRUCTURE OFF FEEDER CANAL - 3 OPENINGS - PROVISIONS FOR STOP LOGS IN EACH - STEEL BRIDGE CROSSES TOP OF SPILLWAY - ENTIRE SPILLWAY STRUCTURE IS IN GOOD CONDITION

c. Condition of Auxiliary Spillway _____

d. Condition of Discharge Conveyance Channel _____

CHANNEL IS A FEEDER CANAL

8) Reservoir Drain/Outlet NONE

Type: Pipe _____ Conduit _____ Other _____

Material: Concrete _____ Metal _____ Other _____

Size: _____ Length _____

Invert Elevations: Entrance _____ Exit _____

Physical Condition (Describe): Unobservable _____

Material: _____

Joints: _____ Alignment _____

Structural Integrity: _____

Hydraulic Capability: _____

Means of Control: Gate _____ Valve _____ Uncontrolled _____

Operation: Operable _____ Inoperable _____ Other _____

Present Condition (Describe): _____

9) STRUCTURAL - NOT APPLICABLE - EARTH DAM

10) Appurtenant Structures (Power House, Lock, Gatehouse, Other)

a. Description and Condition

INFLOW DIVERSION STRUCTURE - FROM FORESTPORT RESERVOIR 3 VERTICAL SLIDE GATES EACH GATE 3.75' HIGH & 3' WIDE WOOD GATES

INVERT OF GATES TO WATER SURFACE 0.75'

APPENDIX C

HYDROLOGIC/HYDRAULIC ENGINEERING DATA AND COMPUTATIONS

CHECK LIST FOR DAMS
HYDROLOGIC AND HYDRAULIC
ENGINEERING DATA

AREA-CAPACITY DATA:

	(RELATIVE) Elevation (ft.)	Surface Area (acres)	Storage Capacity (acre-ft.)
1) Top of Dam	6.7	10.1	61.1
2) Design High Water (Max. Design Pool)	N/A		
3) Auxiliary Spillway Crest (CANAL STRUCT.)	0.0		
4) Pool Level with Flashboards	N/A		
5) Service Spillway Crest	NONE		

DISCHARGES

	[redacted] (cfs)		
1) Average Daily	N/A		
2) AUX. Spillway @ Maximum High Water	516 OUT	← STOPLOGS →	424 IN
3) Spillway @ Design High Water	N/A		
4) Spillway @ Auxiliary Spillway Crest Elevation	N/A		
5) Low Level Outlet	NONE		
6) Total (of all facilities) @ Maximum High Water (INCL. BLACK RIVER CANAL)	649		557
7) Maximum Known Flood	N/A		
8) At Time of Inspection	<2		

CREST: (RELATIVE) ELEVATION: 6.7

Type: EARTH

Width: ± 54' Length: 550'

Spillover NONE ; OUTFLOWS EXIT RESERVOIR VIA BLACK RIVER CANAL

Location @ LEFT END OF EMBANKMENT ; BENEATH ROADWAY BRIDGE

SPILLWAY:

SERVICE		AUXILIARY
NONE	(RELATIVE) Elevation	0.0
	Type	CONCRETE STOPLOG STRUCTURE
	Width	5.75'
	Type of Control	
	Uncontrolled	
	Controlled:	✓
	Type (Flashboards; gate)	WOODEN STOPLOGS MAX. HT = 3.95' ABOVE CREST
	Number	3 OPENINGS
	Size/Length	3.5' (TYP.) ; TOTAL L = 10.5'
	Invert Material	CONCRETE
	Anticipated Length of operating service	N/A
	Chute Length	≈ 20'
	Height Between Spillway Crest & Approach Channel Invert (Weir Flow)	< 1'

REGULATED INFLOW (TO RESERVOIR) — DIVERSION STRUCTURE 600' EAST OF DAM @ FORESTPORT RESERVOIR

CONTROL STRUCTURE : 3 VERTICAL WOODEN GATES
EACH : 3' WIDE x 3.75'

OUTLET OF GATES — INVERT @ (RELATIVE) ELEV. 1.45

HYDROMETEROLOGICAL GAGES:

Type : NONE

Location:

Records: [LOW FLOW MEASUREMENTS] - UPSTREAM OF RESERVOIR @ RT. 12
DR. AREA = 4.73 SQ. MI.

USGS GAGE # 04250998

Date - 10/5/66 TO 9/20/67

Max. Reading - 10.9 cfs RANGE [3.82 - 10.9]

FLOOD WATER CONTROL SYSTEM:

Warning System: NONE

Method of Controlled Releases (mechanisms):

NONE

DRAINAGE AREA: 3316 ACRES 5.18 SQ MILES

DRAINAGE BASIN RUNOFF CHARACTERISTICS:

Land Use - Type: RELATIVELY UNDEVELOPED - WOODLANDS, FORESTS, WETLANDS

Terrain - Relief: RANGES FROM FLAT (ALONG STREAMS) TO STEEP (HILLSIDES IN UPPER REACHES)

Surface - Soil: GRAVELLY SANDY LOAM

Runoff Potential (existing or planned extensive alterations to existing (surface or subsurface conditions)

NONE

Potential Sedimentation problem areas (natural or man-made; present or future)

NONE APPARENT

Potential Backwater problem areas for levels at maximum storage capacity including surcharge storage:

NONE

Dikes - Floodwalls (overflow & non-overflow) - Low reaches along the Reservoir perimeter:

Location: NONE

Elevation:

Reservoir:

Length @ Maximum Pool ±0.5 (Miles)

Length of Shoreline (@ Spillway Crest) ± 1.0 (Miles)

00-15-1 (3/78)
Formerly GA-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM NY-1489	1/		
SUBJECT		**COMPUTED BY**	**DATE**
WATERSHED PARAMETERS		WCL	2/27/81

DRAINAGE AREA : FROM 7.5 MIN USGS QUAD. MAPS

SCALE : 1 IN = 2000'

1 SQ IN = 91.827 ACRES

QUAD	AREA (IN^2)
FORESTPORT	22.34
BOONVILLE	13.77
	36.11 →

→ 3316 ACRES → 5.18 SQ MILES ←

POND AREA :

	(IN^2)	(USGS) ELEV.	(SURFACE) (ACRES)
FORESTPORT	0.11	1124	10.1

PMP RAINFALL — HRR #33 :

200 SQ MI/24 HR INDEX RAINFALL = 19" (ZONE 1)

ADJUSTMENT FOR AREA/DURATION :

(HRS) →	6	12	24	48
(LOWER LIMIT) (@ 10 SQ MI) % OF INDEX →	111	123	132	142

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Formerly C4-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM	2/		
SUBJECT		**COMPUTED BY**	**DATE**
WATERSHED PARAMETERS		WCL	2/27/81

SNYDER UNIT HYDROGRAPH:

LAG TIME: $t_p = C_t (L \times L_{CA})^{0.3}$

$C_t = 3.5$

$L = 30000' = 5.68$ MILES

$L_{CA} = 16800' = 3.18$ MILES

$t_p = (3.5)(5.68 \times 3.18)^{0.3}$

$t_p = 8.34$ HRS

UNIT RAINFALL DURATION:

$t_r = \frac{t_p}{5.5}$ $\quad t_r = 1.52$ HRS $\quad$ ADJUSTED $t_R = 2$ HRS ←

ADJUSTED LAG TIME:

$TP = t_p + 0.25(t_R - t_r)$

$= 8.34 + 0.25(2 - 1.52)$

$TP = 8.46$ HRS ←

PEAKING COEFFICIENT:

$640\ CP = 400$

$CP = 0.625$

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Formerly CA-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM	3/		
SUBJECT		**COMPUTED BY**	**DATE**
WATERSHED PARAMETERS		WCL	3/2/81

SOIL INFILTRATION (LOSS RATES): REF: ONEIDA COUNTY SOIL SURVEY

SOIL NAME	SCS GROUP	
COLTON	A	GRAVELLY SANDY LOAM
ADAMS	A	
SCARBORO	D	
HINCKLEY	A	SAME AS ABOVE
LOWVILLE	B	SILTS OVER LOAMY SUBSOIL
AMENIA	B	
CAMRODEN	C	SILT LOAM SOILS
MARCY	D	

INITIAL LOSS = 1.0 INS ; CONSTANT LOSS = 0.15 INS/HR ←

BASE FLOW:

REF: 1966 & 1967 GAGE MEASUREMENTS:

	CSM
MAX	2.30
MIN.	0.81
AVE.	1.50

FOR DA = 5.18 BASE FLOW = 7.8 cfs
8 cfs ← USE

TOP OF DAM:

BROAD-CRESTED WEIR C = 2.63
(WIDTH ≈ 54') CREST L = 550'

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Formerly GA-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

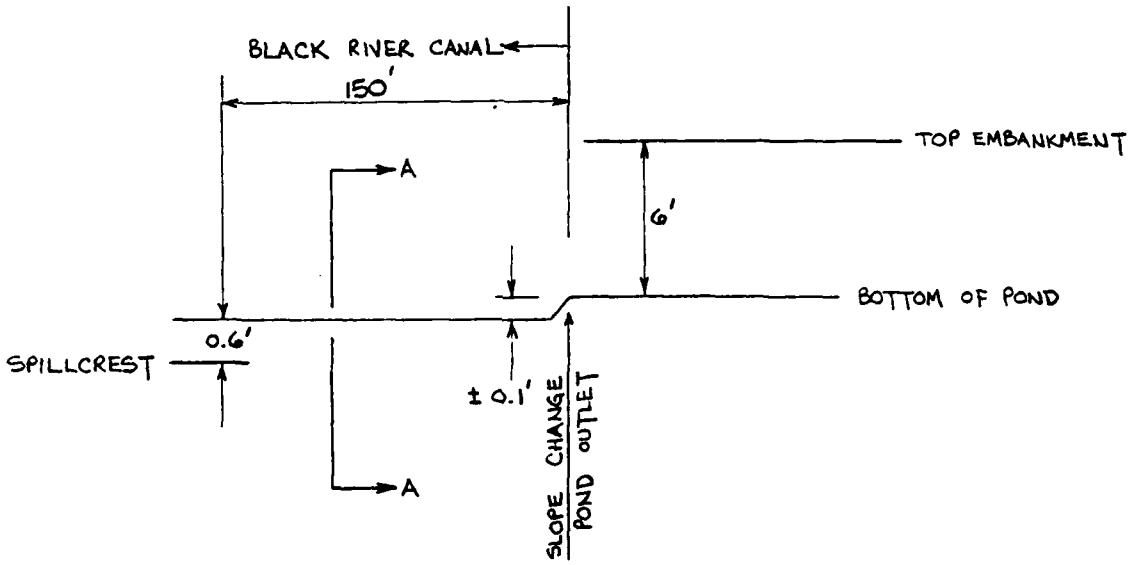
PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM	4/		
SUBJECT		COMPUTED BY	DATE
		WCL	3/2/81

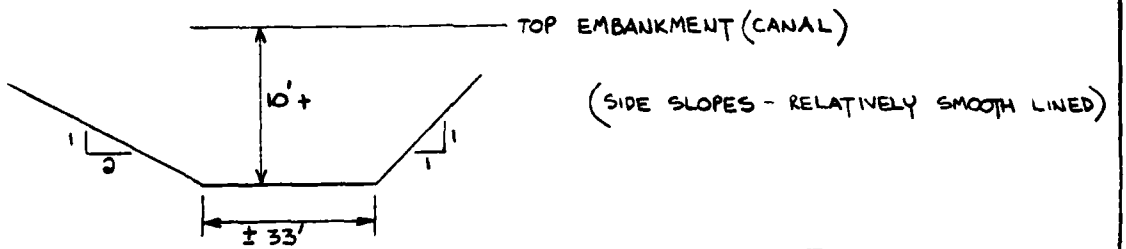
STAGE - STORAGE DATA:

FROM SHT 1/:

USGS	(RELATIVE) ELEV	(ACRES) AREA	ΔH	ΔV	(ACRE-FEET) VOL	
1124	6.1	10.1			61.1	TOP DAM
			6	60.6		
	0.1	10.1			0.5	BOT. POND
			0.1	0.5		
	0	0			0.01	POND OUTLET / CANAL INLET
	-0.6				0	SPILLCREST



PROFILE



(SIDE SLOPES - RELATIVELY SMOOTH LINED)

SECTION A-A

[MEASUREMENTS - 10/80

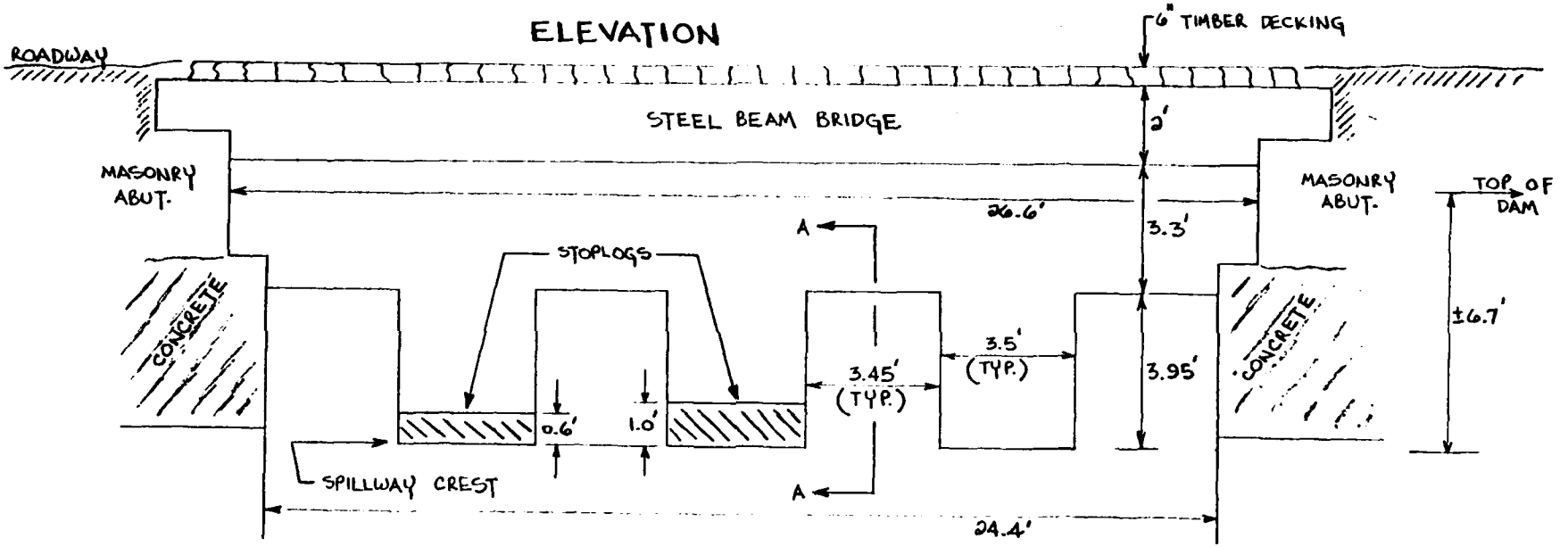
BLACK RIVER CANAL - AUXILIARY SPILLWAY

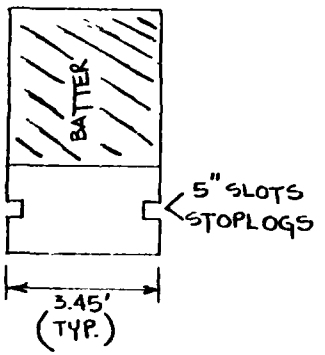
FIELD MEASUREMENTS - 10/80

WATER LEVEL @ 0.6' ABOVE SPILLCREST @ INSPECTION

TO ALDER POND DAM
150'

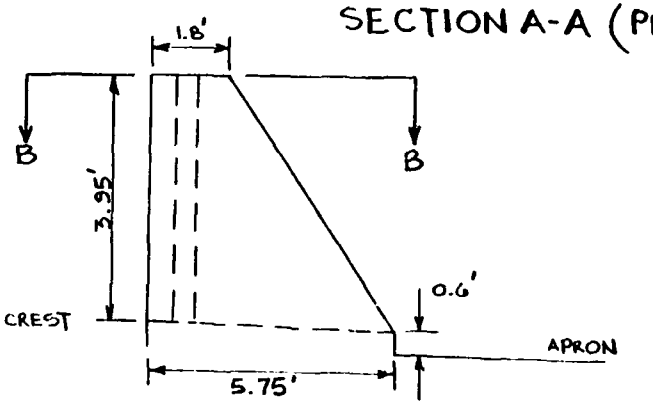
ELEVATION





SECTION B-B

SECTION A-A (PIER)



SHT 4A/

00-15-1 (3/78)
Formerly CA-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM	5/		
SUBJECT		**COMPUTED BY**	**DATE**
AUXILIARY SPILLWAY (@ CANAL) - DISCHARGES		WCL	3/4/81

WEIR FLOW: $Q = C L H^{3/2}$ CONDITION: NO STOPLOGS

$C = 2.63$ BROAD-CRESTED WEIR

L - VARIES W/ H

$L' = 10.5'$

$N = 2$

$K_p = 0.02$

$K_a = 0.20$

$L = L' - 2(NK_p + K_a)H$

$L = 10.5 - 2(0.04 + 0.2)H = 10.5 - 0.48H$

	ELEV.	H	L	Q
		0	10.5	—
		0.5	10.26	9.5
		1	10.02	26.3
		1.5	9.78	47.2
		2	9.54	71
		3	9.06	123
TOP OF PIERS →		3.95	8.60	177

	ELEV.	H	[H-3.95]	L	Q	Q_{TOTAL}
		4	0.05	24.4	0.7	177.7
CONTROL		4.5	0.55	24.4	27.8	204.8
		5	1.05	26.6	80	257
		6	2.05	26.6	218	395
		6.5	2.55	26.6	303	480
TOP DAM →		6.7	2.75	26.6	339	516

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Formerly GA-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM	6/		
SUBJECT		**COMPUTED BY**	**DATE**
AUXILIARY SPILLWAY (@ CANAL) - DISCHARGES		WCL	3/4/81

WEIR FLOW: $Q = CLH^{3/2}$ CONDITION: STOPLOGS TO TOP PIERS

C - VARIES W/ H SHARP-CRESTED WEIR

(P = 3.95)

ELEV.	CREST H	H	H/P	C	L	Q	
	3.95	0	—	3.2	24.4	—	TOP PIERS
	4	0.05	0.01	3.2	↕	0.8	
	4.5	0.55	0.14	3.2	24.4	31.8	
	5	1.05	0.26	3.3	26.6	94	
	6	2.05	0.52	3.4	↕	265	
	6.5	2.55	0.64	3.4		368	
	6.7	2.75	0.70	3.4	26.6	424	TOP DAM

00-15-1 (3/78)
Formerly GA-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM	7/		
SUBJECT		**COMPUTED BY**	**DATE**
BLACK RIVER CANAL - DISCHARGE		WCL	3/4/81

REF: HYDR & EXC. TABLES 11TH ED. — BUREC

ESTIMATED:

$n = 0.035$

$S = 0.000189$ (1'/10 MILES)

AVE. BOTTOM WIDTH ≈ 30'

SIDE SLOPES ≈ 1:1

$$VEL = \frac{1.486}{n} R^{2/3} S^{1/2}$$

$Q = AV$

$$V = 0.18458\, R^{2/3}$$

DEPTH	R	(fps) V	(SQ FT) A	(cfs) Q
0.5	0.485	0.114	15.26	1.7
1	0.94	0.177	31.00	5.5
1.5	1.375	0.228	47.26	10.8
2	1.79	0.272	64.00	17.4
3	2.57	0.346	99.00	34.2
3.95	3.255	0.405	134.11	54
4	3.29	0.408	136.00	55
4.5	3.635	0.436	155.26	67
5	3.96	0.462	175.00	80
6	4.60	0.51	216.00	110
6.5	4.90	0.532	237.26	126
6.7	5.02	0.541	245.90	133

00-15-1 (3/78)
Formerly GA-17

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

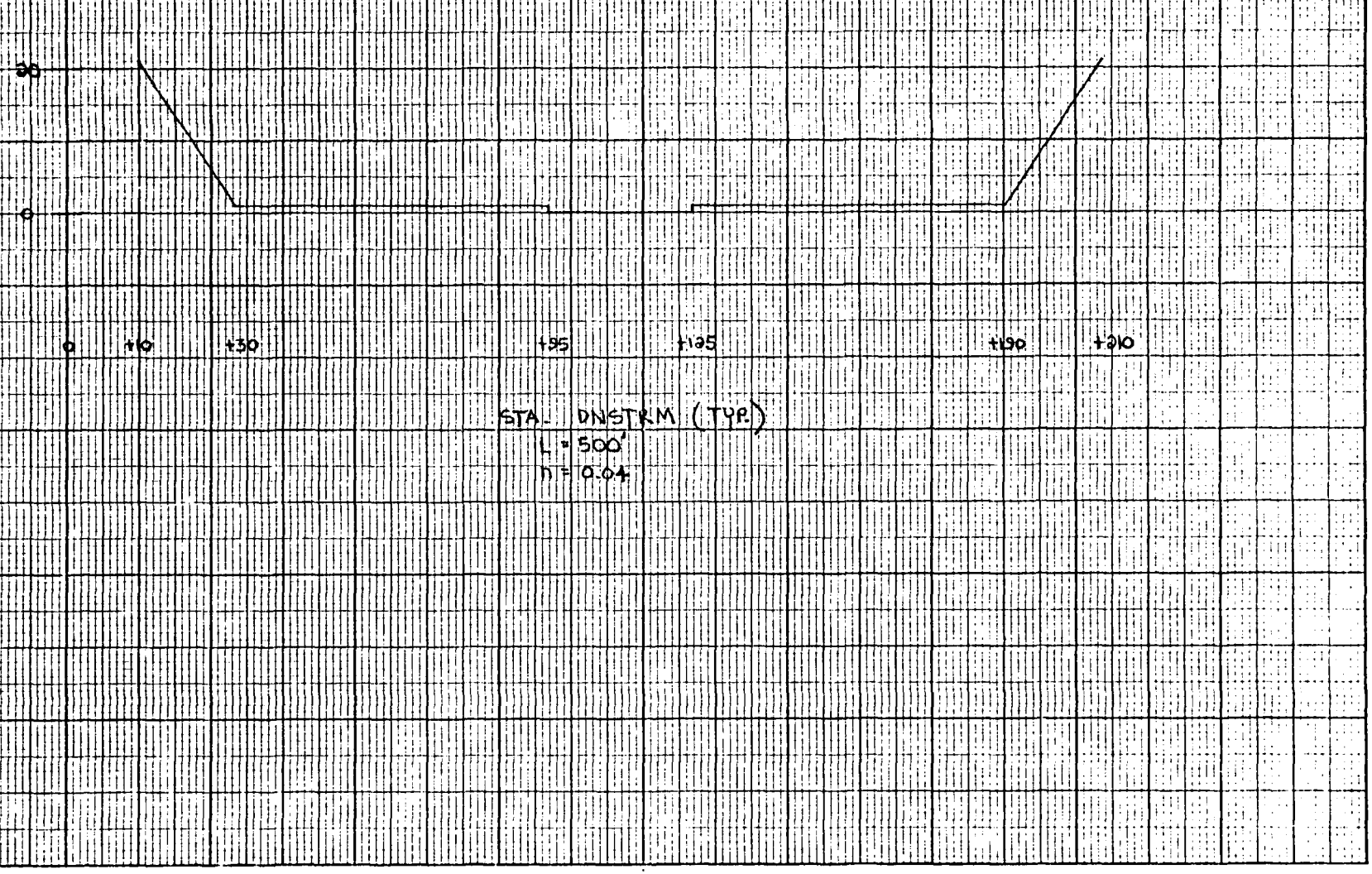
PROJECT GRID

JOB	SHEET NO.	CHECKED BY	DATE
ALDER POND DAM	8/		
SUBJECT		**COMPUTED BY**	**DATE**
SUMMARY: DISCHARGES		WCL	3/4/81

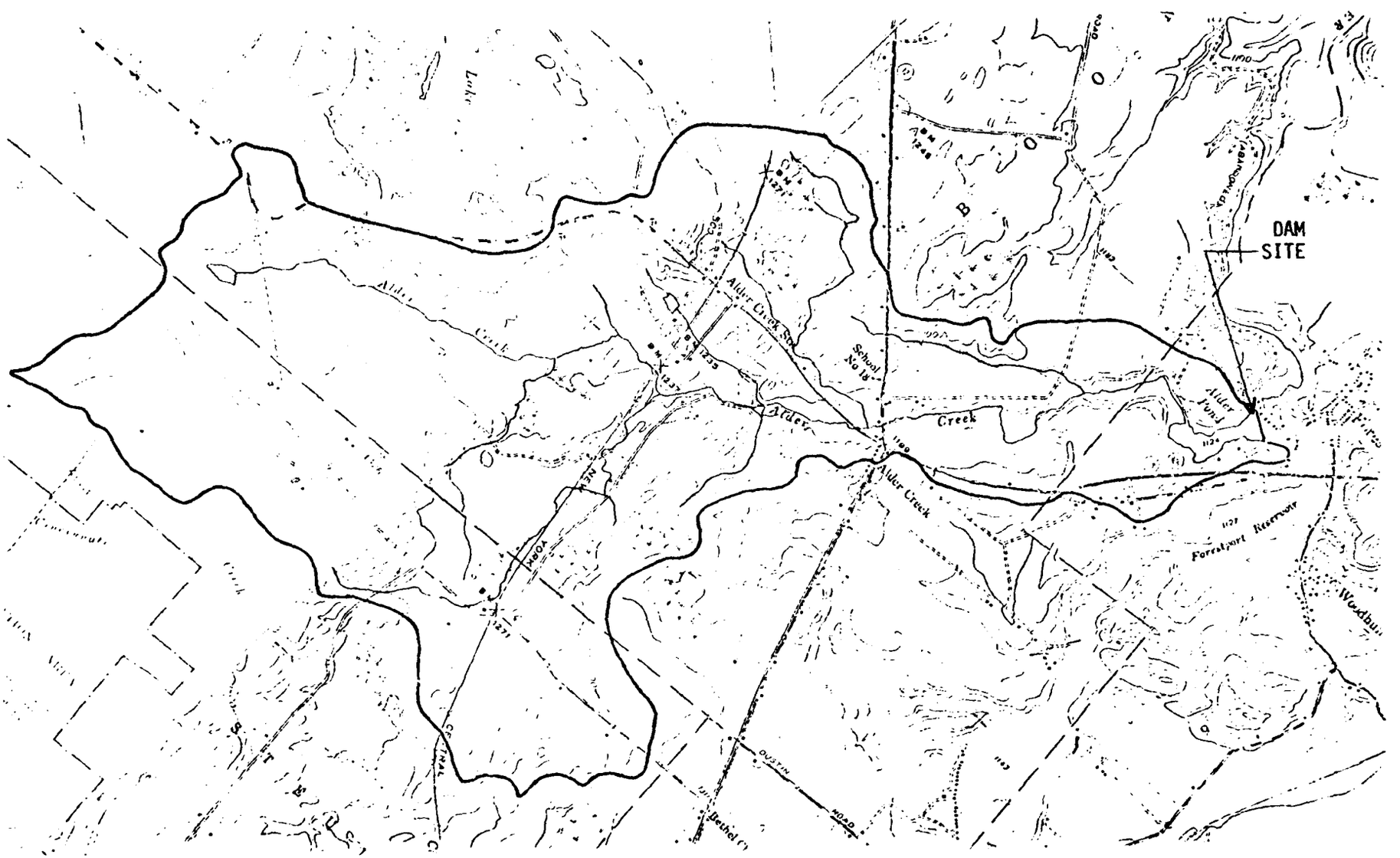
ELEV. OR H	CANAL FLOWS	STOPLOGS OUT	STOPLOGS IN	TOTAL Q (cfs) LOGS OUT	TOTAL Q (cfs) LOGS IN
0	—	—	—	0	0
0.5	2	9.5	—	11.5	2
1	5.5	20	—	31.5	5.5
1.5	11	47	—	58	11
2	17	71	—	88	17
3	34	123	—	157	34
3.95	54	177	0	231	54
4	55	178	1	233	56
4.5	67	205	32	272	99
5	80	257	94	337	174
6	110	395	265	505	375
6.5	126	480	368	606	494
6.7	132	516	424	649	557

ALDER POND DAM NY-1489

TYPICAL DOWNSTREAM CHANNEL X-SECTION



STA. DNSTRM (TYP.)
L = 500'
n = 0.04



DRAINAGE AREA MAP - ALDER POND DAM: NY-1489

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**********
FLOOD HYDROGRAPH PACKAGE (HEC-1)
DAM SAFETY VERSION  JULY 1978
  LAST MODIFICATION  26 FEB 79
  MONTFIELD FOR MCKEYBELL APR 79
**********
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**********
NEW YORK STATE
DEPT OF ENVIRONMENTAL CONSERVATION
FLOOD PROTECTION BUREAU
**********
BLACK RIVER BASIN
ONEIDA COUNTY
SNYDER LK
**********
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```
     1              A    NY-1419   ALDER POND DAM
     2              A              DEC 127A-4417 BLACK -- ALDER CREEK
     3              A              NYSDOT -- WATERWAYS
     4              B    60        2        0        0        0        0        0        0        0        0
     5              B1    5
     6              J     1        4        1
     7              J1  0.17     0.18     0.50        1
     8              K     C   BASIN                                                1
     9              K1            INFLOW HYDROGRAPH -- DAM
    10              M     1        1     5.18                                                          1
    11              P              19      111      123      132      142
    12              T                                                          1.0     0.15
    13              R    6.46    0.625
    14              X     8        8        1
    15              K     1   DAM                                                  1
    16              K1            ROUTED OUTFLOW - DAM -- CANAL FLOW AND ALL STOPLOGS OUT -
    17              Y                                      1        1
    18              Y1    1                                                      -1       -1
    19              Y4    C        2        3     3.95        4      4.5        5        6      6.5      6.7
    20              Y5    C       68      157      231      233      272      337      505      606      649
    21              $S    C     0.01      0.5     61.1     91.4
    22              $E    C      0.6      0.7      6.7      9.7
    23              $$    C
    24              SC   6.7     2.63      1.5      550
    25              K     1   DISTRI                                               1
    26              K1            DOWNSTREAM CHANNEL ROUTING
    27              Y                                      1        1
    28              Y1    1
    29              Y6  0.04     0.04     0.04        0       21      500     0.06
    30              Y7   10       21       30        1       95        1       55        0      125        0
    31              Y7  125        1      190        1      210       21
    32              Y     99
```

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**********                                    **********
FLOOD HYDROGRAPH PACKAGE (HEC-1)              NEW YORK STATE
DAM SAFETY VERSION      JULY 1978             DEPT OF ENVIRONMENTAL CONSERVATION
  LAST MODIFICATION  26 FEB 79                FLOOD PROTECTION BUREAU
  MODIFIED FOR HONEYWELL APR 79
**********                                    **********

RUN DATE 03/10/81
                    NY-1489   ALDER POND DAM                          BLACK RIVER BASIN
                              DEC 127A-4417 BLACK -- ALDER CREEK      ONEIDA COUNTY
                              NYSDOT -- WATERWAYS                     SNYDER QH

                                        JOB SPECIFICATION
                    NS      NHR     NMIN     IDAY     IHR     IMIN    METRC     IPLT     IPRT    NSTAN
                    60        2        0        0       0        0        0        0        0        0
                                     JOPER      NRT    LROPT    TRACE
                                         5        0        0        0

                                  MULTI-PLAN ANALYSES TO BE PERFORMED
                                      NPLAN= 1  NRTIO= 4  LRTIO= 1
                          RTIOS=   0.17    0.18    0.50    1.00

**********          **********          **********          **********          **********

                                  SUB-AREA RUNOFF COMPUTATION

                                  INFLOW HYDROGRAPH -- DAM
                                    ISTAQ   ICOMP   IECON   ITAPE    JPLT    JPRT   INAME  ISTAGE   IAUTO
                                    BASIN       0       0       0       0       0       1       0       0

                                        HYDROGRAPH DATA
                              IHYDG    IUHG   TAREA    SNAP   TRSDA   TRSPC   RATIO   ISNOW   ISAME   LOCAL
                                  1       1    5.18      0.    5.18      0.      0.       0       1       0

                                        PRECIP DATA
                                    SPFE     PMS      R6     R12     R24     R48     R72     R96
                                      0.   19.00  111.00  123.00  132.00  142.00      0.      0.
TRSPC COMPUTED BY THE PROGRAM IS 0.800

                                        LOSS DATA
                              LROPT   STRKR   DLTKR   RTIOL   ERAIN   STRKS   RTIOK   STRTL   CNSTL   ALSMX   RTIMP
                                  0      0.      0.    1.00      0.      0.    1.00    1.00    0.15      0.      0.

                                     UNIT HYDROGRAPH DATA
                                  TP=  8.46    CP=0.63    NTA=  0

                                     RECESSION DATA
                                  STRTQ=    8.00    QRCSN=    8.00    RTIOR= 1.00
APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC= 5.03 AND R= 3.87 INTERVALS

                    UNIT HYDROGRAPH 24 END-OF-PERIOD ORDINATES, LAG=  8.47 HOURS, CP= 0.62  VOL= 1.00
                      24.      86.     164.     225.     243.     212.     164.     126.      97.      75.
                      58.      45.      34.      27.      20.      16.      12.       9.       7.       6.
                       4.       3.       3.       2.

                                     END-OF-PERIOD FLOW
                    MO.DA   HR.MN  PERIOD    RAIN    EXCS    LOSS    COMP Q    MO.DA   HR.MN  PERIOD    RAIN    EXCS    LOSS    COMP Q
                     1.01    2.00       1    0.01      0.    0.01        8.     1.03   14.00      31      0.      0.      0.     742.
                     1.01    4.00       2    0.01      0.    0.01        8.     1.03   16.00      32      0.      0.      0.     574.
                     1.01    6.00       3    0.01      0.    0.01        8.     1.03   18.00      33      0.      0.      0.     444.
                     1.01    8.00       4    0.05      0.    0.05        8.     1.03   20.00      34      0.      0.      0.     344.
```

	12.	10.	11.	9.	10.	
INCHES		1.14	2.74	3.06	3.10	
MM		28.92	69.52	78.20	78.71	
AC-FT		314.	756.	850.	856.	
THOUS CU M		388.	932.	1049.	1056.	

HYDROGRAPH AT STA BASIN FOR PLAN 1, RTIO 3

4.	4.	4.	4.	4.	4.	4.	5.	9.	13.
16.	17.	15.	13.	11.	15.	25.	49.	129.	383.
857.	1410.	1817.	1913.	1697.	1351.	1043.	805.	621.	480.
371.	287.	222.	172.	134.	104.	81.	63.	50.	39.
31.	24.	17.	7.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1913.	1761.	1058.	367.	14361.
CMS	54.	50.	30.	11.	407.
INCHES		3.16	7.60	8.55	8.61
MM		80.33	193.10	217.22	218.65
AC-FT		873.	2099.	2361.	2377.
THOUS CU M		1077.	2589.	2913.	2932.

HYDROGRAPH AT STA BASIN FOR PLAN 1, RTIO 4

8.	8.	8.	8.	8.	8.	8.	11.	17.	25.
32.	64.	30.	25.	21.	26.	50.	99.	257.	766.
1714.	2820.	3635.	3825.	3394.	2702.	2085.	1610.	1243.	960.
742.	574.	444.	344.	267.	208.	162.	127.	100.	78.
62.	49.	33.	14.	8.	8.	8.	8.	8.	8.
8.	8.	8.	8.	8.	8.	8.	8.	8.	8.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3825.	3522.	2117.	734.	28761.
CMS	108.	100.	60.	22.	814.
INCHES		6.33	15.20	17.10	17.22
MM		160.67	386.20	434.44	437.30
AC-FT		1747.	4196.	4723.	4754.
THOUS CU M		2154.	5179.	5825.	5864.

********** ********** ********** ********** **********

HYDROGRAPH ROUTING

ROUTED OUTFLOW - DAM -- CANAL FLOW AND ALL STDPLOTS OUT -

ISTAG	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DAM	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
0.	0.	0.	1	1	0	0	0

NSTPS	NSTOL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	0.	0.	0.	-1.	-1

STAGE	0.	2.00	3.00	3.95	4.00	4.50	5.00	6.00	6.50	6.70
FLOW	0.	88.00	157.00	231.00	233.00	272.00	337.00	505.00	606.00	649.00
CAPACITY=	0.	0.	1.	61.	91.					
ELEVATION=	0.	1.	1.	7.	10.					

CREL SPWID COQW EXPW ELEVL CCOL CAREA EXPL

CREL	SPWID	COOL	EXPW	ELEVL	CCOL	CAREA	EXPL
0.	0.	0.	0.	0.	0.	0.	0.

DAM DATA

TOPEL	COOL	EXPD	DAMWID
6.7	2.6	1.5	550.

STATION DAM, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

3.	0.	3.	0.	3.	0.	3.	1.	4.	3.
7.	4.	6.	3.	5.	3.	10.	16.	33.	62.
160.	357.	585.	647.	604.	498.	393.	306.	248.	202.
157.	124.	97.	79.	65.	52.	41.	32.	16.	14.
10.	9.	5.	3.	1.	2.	1.	2.	1.	2.
1.	2.	1.	2.	1.	2.	1.	2.	1.	2.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	1.	8.
24.	45.	58.	61.	59.	54.	47.	41.	36.	30.
24.	19.	15.	12.	8.	5.	3.	1.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1
0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.7	1.4
3.0	5.1	6.4	6.7	6.5	6.0	5.3	4.8	4.2	3.6
3.0	2.5	2.1	1.8	1.5	1.2	0.9	0.7	0.4	0.3
0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PEAK OUTFLOW IS 647. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	647.	598.	354.	135.	4989.
CMS	18.	17.	10.	4.	136.
INCHES		1.07	2.54	2.91	2.93
MM		27.26	64.61	73.85	74.34
AC-FT		296.	702.	803.	806.
THOUS CU M		366.	866.	990.	987.

STATION DAM, PLAN 1, RATIO 2

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

3.	0.	3.	0.	3.	0.	3.	1.	4.	3.
7.	5.	7.	3.	5.	3.	10.	17.	34.	65.
172.	387.	620.	697.	625.	529.	414.	322.	259.	213.
166.	131.	103.	82.	68.	55.	43.	34.	22.	10.
15.	5.	10.	0.	4.	0.	3.	0.	3.	0.
3.	0.	3.	0.	3.	0.	3.	0.	3.	0.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	1.	8.
24.	47.	60.	62.	60.	55.	49.	43.	37.	31.
25.	20.	16.	12.	9.	6.	3.	1.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.4	0.8	1.5
3.2	3.3	6.6	6.6	6.6	6.1	5.5	4.9	4.3	3.7
3.1	2.6	2.2	1.9	1.5	1.2	1.0	0.8	0.5	0.2
0.3	0.1	0.2	0.	0.1	0.	0.1	0.0	0.1	0.0
0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0

PEAK OUTFLOW IS 697. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	697.	632.	375.	143.	5179.
CMS	20.	18.	11.	4.	147.
INCHES		1.14	2.69	3.08	3.10
MM		28.84	68.44	78.21	78.73
AC-FT		314.	744.	850.	856.
THOUS CU M		387.	918.	1049.	1056.

STATION DAM, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

8.	0.	8.	0.	8.	0.	8.	2.	12.	9.
19.	13.	19.	9.	14.	9.	27.	34.	63.	196.
651.	1536.	1681.	2030.	1605.	1453.	976.	881.	603.	538.
405.	319.	257.	212.	166.	131.	103.	83.	69.	56.
45.	36.	25.	0.	11.	0.	8.	0.	8.	0.
8.	0.	8.	0.	8.	0.	8.	0.	8.	0.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	1.	8.	29.
61.	68.	68.	70.	68.	67.	64.	64.	59.	56.
48.	43.	37.	31.	25.	20.	16.	12.	9.	6.
4.	2.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.3	0.2
0.4	0.3	0.4	0.2	0.3	0.2	0.6	0.8	1.4	3.5
6.7	7.3	7.4	7.6	7.4	7.3	7.0	6.9	6.5	6.2
5.4	4.9	4.3	3.7	3.1	2.6	2.2	1.9	1.6	1.3
1.0	0.8	0.6	0.	0.3	0.	0.2	0.0	0.2	0.0
0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0

PEAK OUTFLOW IS 2030. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2030.	1761.	1051.	397.	14382.
CMS	57.	50.	30.	11.	407.
INCHES		3.16	7.55	8.55	8.61
MM		80.30	191.83	217.22	218.66
AC-FT		873.	2085.	2361.	2377.
THOUS CU M		1077.	2572.	2913.	2932.

STATION DAM, PLAN 1, RATIO 4

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

16.	0.	16.	0.	16.	0.	16.	3.	24.	18.
31.	32.	32.	29.	21.	26.	34.	85.	132.	490.
1799.	2669.	3719.	3740.	3491.	2640.	2167.	1562.	1307.	925.

[illegible]	[illegible]	491.	379.	293.	245.	199.	157.	125.	99.
81.	67.	53.	38.	10.	6.	10.	6.	10.	6.
10.	6.	10.	6.	10.	6.	10.	6.	10.	6.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	0.	0.	0.	1.	6.	20.	52.
69.	73.	77.	77.	76.	73.	71.	68.	66.	64.
63.	58.	53.	46.	41.	35.	29.	24.	19.	15.
12.	9.	6.	2.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.4	0.0	0.4	0.0	0.4	0.0	0.4	0.1	0.6	0.4
0.7	0.7	0.7	0.7	0.5	0.6	0.8	1.3	2.6	5.9
7.5	7.9	8.2	8.2	8.2	7.8	7.6	7.4	7.2	7.0
6.9	6.4	5.9	5.2	4.7	4.1	3.5	3.0	2.5	2.2
1.8	1.5	1.2	0.9	0.2	0.1	0.2	0.1	0.2	0.1
0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1

PEAK OUTFLO IS 3740. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3740.	3516.	2114.	794.	28761.
CMS	106.	100.	60.	22.	814.
INCHES		6.31	15.19	17.10	17.22
MM		160.39	385.75	434.40	437.30
AC-FT		1744.	4194.	4722.	4754.
THOUS CU M		2151.	5173.	5825.	5864.

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HYDROGRAPH ROUTING

DOWNSTREAM CHANNEL ROUTING

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DNSTRM	1	0	0	0	0	1	0	0

ROUTING DATA

CLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
0.	0.	0.	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	0.	0.	0.	0.	0

NORMAL DEPT- CHANNEL ROUTING

CN(1)	CN(2)	CN(3)	ELEVT	ELMAX	PLPTH	SEL
0.0400	0.0400	0.0400	0.	21.0	500.	0.06000

CROSS SECTION COORDINATES--STA,ELEV,STA,ELEV--ETC

10.00 21.00 30.00 1.00 95.00 1.00 95.00 0. 125.00 0.
125.00 1.00 190.00 1.00 210.00 21.00

STORAGE	0.	0.54	2.58	4.66	6.76	8.89	11.05	13.24	15.45	17.70
	19.97	22.27	24.59	26.95	29.33	31.74	34.18	36.65	39.14	41.67
OUTFLOW	0.	337.63	2611.41	6725.32	12293.80	19138.67	27147.64	36241.30	46359.83	57456.29
	69492.68	82430.49	96267.14	110956.92	126409.17	142647.88	160019.27	177991.35	196753.51	216297.82

PEAK OUTFLOW IS 3740. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3740.	3516.	2114.	794.	28761.
CMS	106.	100.	60.	22.	814.
INCHES		6.21	15.19	17.10	17.22
CM		160.39	385.75	434.40	437.30
AC-FT		1744.	4194.	4722.	4754.
THOUS CU M		2151.	5173.	5825.	5864.

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HYDROGRAPH ROUTING

DOWNSTREAM CHANNEL ROUTING

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DNSTRM	1	0	0	0	0	1	0	0

ROUTING DATA

CLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
0.	0.	0.	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	0.	0.	0.	0.	0

NORMAL DEPT- CHANNEL ROUTING

QN(1)	QN(2)	QN(3)	ELEVT	ELMAX	RLNTH	SEL
0.0400	0.0400	0.0400	0.	21.0	500.	0.06000

CROSS SECTION COORDINATES--STA,ELEV,STA,ELEV--ETC

10.00 21.00 30.00 1.00 95.00 1.00 95.00 0. 125.00 0.
125.00 1.00 190.00 1.00 210.00 21.00

STORAGE	0.	0.54	2.58	4.66	6.76	8.89	11.05	13.24	15.45	17.70
	19.97	22.27	24.59	26.95	29.33	31.74	34.18	36.65	39.14	41.67
OUTFLOW	0.	337.63	2611.41	6725.32	12293.80	19138.67	27147.64	36241.30	46359.83	57454.29
	69492.88	82438.49	96267.14	110956.92	126489.17	142847.88	160019.27	177991.39	196753.91	216297.82
STAGE	0.	1.11	2.21	3.32	4.42	5.53	6.63	7.74	8.84	9.95
	11.05	12.16	13.26	14.37	15.47	16.58	17.68	18.79	19.89	21.00
FLOW	0.	337.63	2611.41	6725.32	12293.80	19138.67	27147.64	36241.30	46359.83	57454.29
	69492.88	82438.49	96267.14	110956.92	126489.17	142847.88	160019.27	177991.39	196753.91	216297.82

STATION DNSTRM, PLAN 1, RTIC 1

OUTFLOW

5.	0.	3.	0.	3.	0.	2.	1.	4.	3.
6.	5.	6.	4.	4.	4.	5.	16.	32.	62.
155.	355.	564.	647.	605.	498.	393.	306.	245.	203.
157.	125.	97.	79.	65.	52.	41.	32.	16.	14.
10.	9.	5.	3.	1.	2.	1.	2.	1.	2.
1.	2.	1.	2.	1.	2.	1.	2.	1.	2.

STOR

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

FLOW	0.	337.63	2611.41	6725.32	12293.80	19138.67	27147.64	36241.30	46359.83	57456.29
	69492.88	82438.49	96267.14	110956.92	126489.17	142847.88	160019.27	177991.39	196753.91	216297.82

STATION DNSTRM, PLAN 1, RTIC 1

OUTFLOW

5.	0.	3.	0.	3.	0.	2.	1.	4.	3.
6.	5.	6.	4.	4.	4.	9.	16.	32.	62.
159.	355.	584.	647.	603.	498.	393.	306.	248.	203.
158.	125.	97.	79.	65.	52.	41.	32.	16.	14.
10.	9.	5.	3.	1.	2.	1.	2.	1.	2.
1.	2.	1.	2.	1.	2.	1.	2.	1.	2.

STOR

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	1.	1.	1.	1.	1.	1.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.0	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
0.5	1.1	1.2	1.3	1.2	1.2	1.1	1.0	0.8	0.7
0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	647.	598.	354.	135.	4891.
CMS	18.	17.	10.	4.	138.
INCHES		1.07	2.54	2.91	2.93
MM		27.27	64.62	73.85	74.36
AC-FT		296.	702.	803.	809.
THOUS CU M		366.	866.	990.	997.

MAXIMUM STORAGE = 1.

MAXIMUM STAGE IS 1.3

STATION DNSTRM, PLAN 1, RTIC 2

OUTFLOW

6.	0.	3.	0.	3.	0.	3.	1.	4.	4.
7.	5.	6.	4.	5.	4.	10.	17.	33.	65.
169.	385.	619.	697.	626.	530.	414.	322.	260.	213.
167.	131.	103.	82.	65.	54.	44.	34.	22.	10.
15.	5.	10.	0.	4.	0.	2.	1.	2.	1.
2.	1.	2.	1.	2.	1.	2.	1.	2.	1.

STOR

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	1.	1.	1.	1.	1.	1.	1.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.0	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2

0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	697.	633.	375.	143.	5180.
CMS	20.	18.	11.	4.	147.
INCHES		1.14	2.69	3.08	3.10
MM		28.85	68.43	78.21	78.75
AC-FT		314.	744.	850.	856.
THOUS CU M		387.	918.	1049.	1056.

MAXIMUM STORAGE = 1.

MAXIMUM STAGE IS 1.3

STATION DNSTRM, PLAN 1, RTIC 3

OUTFLOW

15.	0.	8.	0.	7.	1.	7.	2.	11.	10.
18.	14.	18.	10.	13.	11.	26.	35.	61.	195.
646.	1534.	1683.	2023.	1615.	1444.	989.	868.	618.	524.
421.	305.	272.	199.	179.	119.	116.	71.	80.	45.
55.	26.	35.	0.	11.	0.	7.	1.	7.	1.
7.	1.	7.	2.	6.	2.	6.	2.	6.	2.

STOR

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	2.	2.	2.	2.	2.	1.	1.	1.	1.
1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.1	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.2	0.6
1.3	1.7	1.8	1.9	1.7	1.6	1.4	1.4	1.2	1.2
1.1	1.0	0.9	0.7	0.6	0.4	0.4	0.2	0.3	0.1
0.2	0.1	0.1	0.	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2023.	1760.	1051.	397.	14391.
CMS	57.	50.	30.	11.	407.
INCHES		3.16	7.55	8.55	8.61
MM		80.30	191.81	217.29	218.80
AC-FT		873.	2085.	2362.	2379.
THOUS CU M		1077.	2572.	2914.	2934.

MAXIMUM STORAGE = 2.

MAXIMUM STAGE IS 1.9

STATION DNSTRM, PLAN 1, RTIC 4

OUTFLOW

31.	0.	16.	1.	15.	1.	14.	4.	23.	20.
29.	34.	30.	31.	27.	27.	33.	57.	129.	467.
1788.	2691.	3711.	3747.	3485.	2655.	2161.	1574.	1298.	939.
779.	508.	479.	392.	287.	257.	185.	168.	115.	105.
71.	77.	49.	47.	2.	14.	2.	13.	3.	13.
3.	13.	3.	12.	4.	12.	4.	12.	4.	12.

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
2.	3.	3.	3.	3.	3.	2.	2.	1.	1.
1.	1.	1.	1.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.1	0.	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	1.2
1.8	2.2	2.5	2.5	2.4	2.2	2.0	1.7	1.6	1.4
1.3	1.2	1.2	1.1	0.9	0.8	0.6	0.5	0.4	0.4
0.2	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3747.	3515.	2114.	794.	28769.
CMS	106.	100.	60.	22.	815.
INCHES		6.31	15.19	17.10	17.22
MM		160.35	385.75	434.40	437.41
AC-FT		1743.	4193.	4722.	4755.
THOUS CU M		2150.	5173.	5825.	5865.

MAXIMUM STORAGE = 3.

MAXIMUM STAGE IS 2.5

********** ********** ********** ********** **********

PEAK FLOW AND STORAGE (END OF PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND (CUBIC METERS PER SECOND)
AREA IN SQUARE MILES (SQUARE KILOMETERS)

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO FLOWS RATIO 1 0.17	RATIO 2 0.18	RATIO 3 0.50	RATIO 4 1.00
HYDROGRAPH AT	BASIN	5.18	1	650.	689.	1913.	3825.
		(-0.00)		(18.41)(	19.50)(	54.16)(	108.32)(
ROUTED TO	DAM	5.18	1	647.	697.	2030.	3740.
		(0.12E 25)		(18.33)(	19.74)(	57.47)(	105.89)(
ROUTED TO	DNSTRM	5.18	1	647.	697.	2023.	3747.
		(-0.00)		(18.33)(	19.74)(	57.29)(	106.11)(

ALDER POND DAM
NY-1489

[NO BREACH]

ALDER POND DAM
NY-1489
[NO BREACH]

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	0.	0.	6.70
STORAGE	0.	0.	61.
OUTFLOW	0.	0.	649.

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
0.17	6.69	0.	61.	647.	0.	48.00	0.
0.18	6.78	0.08	62.	697.	2.00	48.00	0.
0.50	7.58	0.88	70.	2030.	16.00	48.00	0.
1.00	8.24	1.54	77.	3740.	22.00	48.00	0.

PLAN 1 STATION DNSTRM

RATIO	MAXIMUM FLOW,CFS	MAXIMUM STAGE,FT	TIME HOURS
0.17	647.	1.3	48.00
0.18	697.	1.3	48.00
0.50	2023.	1.9	48.00
1.00	3747.	2.5	48.00

```
**********                                                    **********
FLOOD HYDROGRAPH PACKAGE (HEC-1)                              NEW YORK STATE
DAM SAFETY VERSION     JULY 1978                              DEPT OF ENVIRONMENTAL CONSERVATION
  LAST MODIFICATION  26 FEB 79                                FLOOD PROTECTION BUREAU
  MODIFIED FOR HONEYWELL APR 79
**********                                                    **********
    1              A   NY-1499   ALDER POND DAM                          BLACK RIVER BASIN
    2              A             DEC 127A-4417 BLACK -- ALDER CREEK       ONEIDA COUNTY
    3              A             NYSDOT -- WATERWAYS                      SNYDER LK
    4              B     6C       2       0       0       0       0       0       C       0       0
    5              B1    5

    6              J     1        4       1

    7              J1  0.17    0.18    0.50       1

    8              K     C   BASIN                                    1

    9              K1            INFLOW HYDROGRAPH -- DAM

   10              M     1        1    5.18                                                    1

   11              P              19     111     123     132     142

   12              T                                                 1.C    0.15

   13              W   8.46   0.625

   14              X     8        6       1

   15              K     1     DAM                                      1

   16              K1            ROUTED OUTFLOW - DAM -- CANAL FLOW AND ALL STOPLOGS OUT - W/BREACH <----

   17              Y                              1       1

   18              Y1    1                                                -1      -1

   19              Y4    C        2       3    3.95       4     4.5       5       6     6.5     6.7

   20              Y5    C       88     157     231     233     272     337     505     606     649

   21              $S    C     0.01     0.5    61.1    91.4

   22              $E    C      0.6     0.7     6.7     9.7

   23              $$    C

   24              $D   6.7    2.63     1.5     550

   25              $R    12        1     0.6       2       0       7

   26              K     1   DNSTRM                                   1

   27              K1            DOWNSTREAM CHANNEL ROUTING

   28              Y                              1       1

   29              Y1    1

   30              Y6  0.04    0.04    0.04       0      21     500    C.C6

   31              Y7    1C       21      30       1      95       1      95       0     125       0
```

28	Y				1	1							
29	Y1	1											
30	Y6	0.04	0.04	0.04	0	21	500	C.06					
31	Y7	10	21	30	1	95	1	95	0	125	0		
32	Y7	125	1	190	1	210	21						
33	K	99											
34	A												
35	A												
36	A												
37	A												
38	A												

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3825.	3522.	2117.	794.	28761.
CMS	108.	100.	60.	22.	814.
INCHES		6.33	15.20	17.10	17.22
MM		160.67	386.20	434.44	437.30
AC-FT		1747.	4199.	4723.	4754.
THOUS CU M		2154.	5179.	5825.	5864.

********** ********** ********** ********** **********

HYDROGRAPH ROUTING

ROUTED OUTFLOW - DAM -- CANAL FLOW AND ALL STEPLOGS CLT - W/BREACH

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DAM	1	C	C	0	C	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
0.	0.	0.	1	1	0	C	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	0.	0.	C.	-1.	-1

STAGE	0.	2.00	3.00	3.95	4.00	4.50	5.00	6.CC	6.5C	6.70
FLOW	0.	88.00	157.00	231.00	233.00	272.00	337.00	505.00	606.CO	649.00
CAPACITY=	C.	0.	1.	61.	91.					
ELEVATION=	C.	1.	1.	7.	10.					

CREL	SPWID	COOW	EXPW	ELEVL	CCCL	CAREA	EXPL
0.	0.	0.	0.	0.	C.	0.	0.

DAM DATA

TOPEL	COOD	EXPD	DAMWIC
6.7	2.6	1.5	55C.

DAM BREACH DATA

BRWID	Z	ELBM	TFAIL	WSEL	FAILEL
12.	1.00	0.6C	2.00	C.	7.0C

STATION DAM, PLAN 1, RATIC 1

END-OF-PERIOD HYDROGRAPH CRDINATES

OUTFLOW

3.	C.	3.	0.	3.	0.	3.	1.	4.	3.
7.	4.	6.	3.	5.	3.	1C.	16.	33.	62.
150.	357.	585.	647.	604.	498.	393.	3C6.	248.	202.
157.	124.	97.	79.	65.	52.	41.	32.	16.	14.
10.	9.	5.	3.	1.	2.	1.	2.	1.	2.
1.	2.	1.	2.	1.	2.	1.	2.	1.	2.

STORAGE

0.	C.	C.	0.	0.	0.	C.	0.	C.	C.
0.	C.	0.	0.	0.	0.	C.	0.	1.	e.
24.	45.	58.	61.	59.	54.	47.	41.	36.	3C.
24.	15.	15.	12.	8.	5.	3.	1.	C.	C.
0.	C.	C.	0.	0.	0.	C.	0.	0.	C.
0.	C.	0.	0.	0.	0.	C.	0.	0.	C.

STAGE

0.1	0.0	0.1	0.0	0.1	0.0	0.1	C.0	0.1	C.1

CREL	SPWID	COOK	EXPK	ELEVL	CCCL	CAREA	EXPL
0.	0.	0.	0.	0.	C.	0.	0.

DAM DATA

TOPEL	COOD	EXPD	DAMWID
6.7	2.6	1.5	550.

DAM BREACH DATA

BRWID	Z	ELBM	TFAIL	WSEL	FAILEL
12.	1.00	0.60	2.00	C.	7.00

STATION DAM, PLAN 1, RATIC 1

END-OF-PERIOD HYDROGRAPH CRDINATES

OUTFLOW

3.	C.	3.	0.	3.	0.	3.	1.	4.	3.
7.	4.	6.	3.	5.	3.	10.	16.	33.	62.
160.	357.	585.	647.	604.	498.	393.	306.	248.	202.
157.	124.	97.	79.	65.	52.	41.	32.	16.	14.
10.	9.	5.	3.	1.	2.	1.	2.	1.	2.
1.	2.	1.	2.	1.	2.	1.	2.	1.	2.

STORAGE

0.	C.	0.	0.	0.	0.	C.	0.	C.	C.
0.	C.	0.	0.	0.	0.	C.	0.	1.	8.
24.	45.	58.	61.	59.	54.	47.	41.	36.	30.
24.	19.	15.	12.	9.	5.	3.	1.	C.	C.
0.	C.	C.	0.	0.	C.	C.	0.	0.	C.
0.	C.	0.	0.	0.	0.	C.	0.	0.	C.

STAGE

0.1	0.0	0.1	0.0	0.1	0.0	C.1	C.0	0.1	C.1
0.2	0.1	0.1	0.1	0.1	0.1	0.2	C.4	0.7	1.4
3.0	5.1	6.4	6.7	6.5	6.0	5.3	4.8	4.2	3.6
3.0	2.5	2.1	1.8	1.5	1.2	C.9	C.7	0.4	C.3
0.2	0.2	0.1	0.1	0.0	0.0	0.C	C.0	0.0	C.C
0.0	0.0	0.0	0.0	0.0	0.0	0.C	C.0	0.0	C.C

PEAK OUTFLOW IS 647. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	647.	598.	354.	135.	4089.
CMS	18.	17.	10.	4.	116.
INCHES		1.07	2.54	2.91	2.93
MM		27.26	64.61	73.85	74.34
AC-FT		296.	702.	803.	809.
THOUS CU M		366.	866.	990.	997.

STATION DAM, PLAN 1, RATIC 2

END-OF-PERIOD HYDROGRAPH CRDINATES

OUTFLOW

3.	C.	3.	0.	3.	0.	3.	1.	4.	3.
7.	5.	7.	3.	5.	3.	10.	17.	34.	65.
172.	387.	620.	697.	625.	529.	414.	322.	259.	213.
166.	131.	103.	82.	68.	55.	43.	34.	22.	10.
15.	5.	10.	C.	4.	0.	3.	0.	3.	C.
3.	C.	3.	0.	3.	0.	3.	0.	3.	C.

STORAGE

0.	C.	0.	C.	0.	0.	C.	0.	C.	C.

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1
0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.4	0.8	1.5
3.2	5.3	6.6	6.8	6.8	6.1	5.5	4.9	4.3	3.7
3.1	2.6	2.2	1.9	1.5	1.2	1.0	0.8	0.5	0.2
0.3	0.1	0.2	0.	0.1	0.	0.1	0.0	0.1	0.0
0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0

PEAK OUTFLOW IS 697. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	697.	632.	375.	142.	5178.
CMS	20.	18.	11.	4.	147.
INCHES		1.14	2.69	3.09	3.10
MM		28.84	68.44	78.21	78.73
AC-FT		314.	744.	850.	856.
THOUS CU M		387.	918.	1049.	1056.

STATION DAM, PLAN 1, RATIO 3

BEGIN DAM FAILURE AT 44.00 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

8.	0.	8.	0.	8.	0.	8.	2.	12.	8.
19.	13.	19.	9.	14.	9.	27.	34.	63.	196.
651.	1539.	1853.	1873.	1745.	1355.	1111.	932.	662.	515.
402.	312.	245.	191.	150.	120.	95.	75.	60.	48.
38.	30.	15.	9.	2.	6.	2.	5.	3.	5.
3.	5.	3.	5.	3.	5.	3.	5.	3.	5.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	1.	8.	29.
61.	58.	64.	65.	64.	59.	53.	46.	40.	34.
28.	24.	20.	16.	13.	11.	8.	6.	4.	3.
1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.3	0.2
0.4	0.3	0.4	0.2	0.3	0.2	0.6	0.8	1.4	3.5
6.7	7.3	7.0	7.0	7.0	6.5	5.9	5.2	4.6	4.0
3.4	3.0	2.6	2.2	2.0	1.7	1.5	1.2	1.1	0.9
0.8	0.7	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

PEAK OUTFLOW IS 1873. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1873.	1790.	1066.	395.	14443.
CMS	53.	51.	30.	11.	409.
INCHES		3.21	7.66	8.59	8.65
MM		81.63	194.53	218.16	219.59
AC-FT		887.	2115.	2372.	2387.
THOUS CU M		1095.	2608.	2925.	2945.

OVH

STATION DAM, PLAN 1, RATIC 4

BEGIN DAM FAILURE AT 42.00 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

16.	0.	16.	0.	16.	0.	16.	3.	24.	18.
31.	32.	32.	29.	21.	26.	34.	55.	132.	490.
1799.	2831.	3568.	3860.	3381.	2746.	2079.	1647.	1274.	1011.
774.	611.	480.	373.	292.	229.	180.	143.	115.	91.
73.	58.	45.	29.	0.	16.	0.	16.	0.	16.
0.	16.	1.	15.	1.	15.	1.	15.	1.	15.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	0.	0.	0.	1.	6.	20.	53.
69.	69.	72.	73.	71.	69.	66.	63.	57.	51.
44.	38.	32.	27.	22.	19.	15.	13.	10.	8.
6.	4.	2.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

STAGE

0.4	0.0	0.4	0.0	0.4	0.0	0.4	0.1	0.6	0.4
0.7	0.7	0.7	0.7	0.5	0.6	0.8	1.3	2.6	5.9
7.5	7.5	7.8	7.9	7.7	7.5	7.2	6.9	6.3	5.7
5.0	4.4	3.8	3.3	2.9	2.5	2.2	1.9	1.6	1.4
1.2	1.1	0.9	0.6	0.	0.4	0.0	0.4	0.0	0.4
0.0	0.4	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.3

PEAK OUTFLOW IS 3860. AT TIME 48.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3860.	3518.	2128.	795.	28313.
CMS	109.	100.	60.	23.	816.
INCHES		6.32	15.29	17.13	17.25
MM		160.47	388.35	435.18	438.09
AC-FT		1744.	4222.	4731.	4762.
THOUS CU M		2152.	5207.	5835.	5874.

PEAK FLOW AND STORAGE (END OF PERIOD) SUMMARY FORMULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND (CUBIC METERS PER SECOND)
AREA IN SQUARE MILES (SQUARE KILOMETERS)

ALDER POND DAM
NY-1489

[w/ BREACH]

OPERATION	STATION	AREA	PLAN	RATIOS APPLIED TO FLOWS RATIO 1 0.17	RATIO 2 0.18	RATIO 3 0.50	RATIO 4 1.00
HYDROGRAPH AT	BASIN	5.18	1	650.	689.	1913.	3825.
		(0.00)		(18.41)(	19.51)(	54.16)(	108.32)(
ROUTED TO	DAM	5.18	1	647.	697.	1873.	3860.
		(0.12E 25)		(18.33)(	19.74)(	53.05)(	109.30)(
ROUTED TO	DNSTRM	5.18	1	647.	697.	1872.	3864.
		(0.00)		(18.33)(	19.74)(	53.02)(	109.41)(

ALDER POND DAM
NY-1489
[w/ BREACH]

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	0.	0.	6.70
STORAGE	0.	0.	61.
OUTFLOW	0.	0.	649.

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
0.17	6.69	0.	61.	647.	0.	48.00	0.
0.18	6.78	0.08	62.	697.	2.00	48.00	0.
0.50	7.34	0.64	68.	1873.	10.00	48.00	44.00
1.00	7.89	1.19	73.	3860.	16.00	48.00	42.00

PLAN 1 STATION DNSTRM

RATIO	MAXIMUM FLOW,CFS	MAXIMUM STAGE,FT	TIME HOURS
0.17	647.	1.3	48.00
0.18	697.	1.3	48.00
0.50	1872.	1.9	48.00
1.00	3864.	2.5	48.00

ALDER POND DAM
NY-1489

FORESTPORT FEEDER NEAR BOONVILLE, N.Y.

LOCATION.—Slope station with two water-stage recorders at lower end of feeder, above point where it enters the basin at Boonville, Oneida County. Gage 1 is in Hawkinsville; gage 2 is 2.53 miles downstream from gage 1 and 1 mile upstream from basin in Boonville.

RECORDS AVAILABLE.—October 1915 to September 1933 during canal seasons.

REMARKS.—Records fair. Discharge determined by use of Chezy formula, variation in coefficient "C" during season being based on current-meter measurements. Effective slope relation nonexistent Apr. 19–20, May 7–12; flow determined from stage-discharge relation. Canal diverts water from Black River at Forestport.

Discharge, in second-feet, 1932–33

Day	Oct.	Nov.	Apr.	May	June	July	Aug.	Sept.
1	69	*72	.....	34	34	107	95	*141
2	78	*96	.....	35	*35	117	95	*137
3	87	*64	.....	46	34	120	95	147
4	87	*47	.....	41	33	115	97	144
5	125	*42	.....	39	32	119	92	149
6	152	*49	.....	36	34	122	91	*150
7	58	49	.....	32	38	123	101	*119
8	61	*47	.....	22	49	120	121	*129
9	*63	*41	39	22	57	117	135	*153
10	*57	58	37	26	58	122	137	150
11	*53	61	39	27	58	123	140	154
12	58	54	59	26	60	135	136	153
13	*63	45	57	34	63	151	125	147
14	*58	42	*55	39	73	150	96	*146
15	*52	*40	49	*36	*75	146	143	*146
16	*50	*39	43	*37	*77	142	150	*144
17	48	*41	59	*37	*79	145	150	141
18	51	*40	62	*36	84	127	*150	147
19	54	*61	31	*37	88	106	*148	148
20	52	*78	*31	37	89	102	144	150
21	49	52	*37	38	91	101	148	150
22	49	*55	*40	36	109	98	151	151
23	45	*58	39	35	110	94	150	149
24	44	*53	38	35	110	96	*128	149
25	38	.....	35	35	109	96	*69	147
26	32	.....	37	*35	118	93	117	148
27	41	.....	38	35	119	96	118	150
28	*46	.....	38	35	121	94	151	149
29	*34	.....	42	39	122	91	154	*150
30	*36	.....	39	40	119	87	154	147
31	*34	.....	.....	38	.....	94	*154	.....

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	152	32	58.8	June	122	32	75.9
November 1–24	96	39	53.5	July	151	87	115
April 9–30	62	31	42.8	August	154	69	127
May	46	22	34.8	September	154	119	146

* Estimated.

NOTE.—Canal probably carried normal winter flow of about 30 second-feet from Nov. 25, 1932, to Apr. 8, 1933.

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Discharge measurements made at low-flow partial-record stations during water year 1967 -- Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements: Date	Measurements: Discharge (cfs)
		Susquehanna River basin -- Continued				
5131.9	Little Choconut Creek at Stella, N. Y.	Lat 42°07'38", long 75°56'42", at bridge on Stella-Ireland Road, at Stella, Broome County, and 2.6 miles upstream from mouth.	12.2	1965-67	10-31-66 11-14-66 [illegible]-28-67 7- 2-67 8- 6-67 8-1[illegible]-67 9-17-67	[illegible].22 1.13 4.24 1.32 3.63 2.[illegible] .90
5160	Cayuta Creek at Waverly, N. Y.	Lat 42°00'32", long 76°31'33", at bridge on Ithaca Street, Waverly, Tioga County.	140	1950-64, 1966-67	4-26-67	2[illegible]5
		Allegheny River basin				
107	Oswayo Creek near Mill Grove, N. Y.	Lat 42°00'28", long 78°19'40", at bridge 1.4 miles southeast of Mill Grove, Cattaraugus County, and 2.1 miles upstream from mouth.	243	1957-62, 1964, 1967	6-21-67	24[illegible]
109	Fivemile Creek at Allegany, N. Y.	Lat 42°05'48", long 78°30'12", at bridge on State Highway 17, 0.2 mile west of Allegheny, Cattaraugus County.	37.0	195[illegible], 1957-[illegible], 1964, 1967	[illegible]-14-67 9-20-67	[illegible] 4.89
132	Cassadaga Creek at Ross Mills, N. Y.	Lat 42°[illegible]'19", long 79°13'25", at bridge, at Ross Mills, Chautaugua County, and 2.9 miles northwest of Falconer.	126	1952-57, 1957-64, 1967	[illegible] 9-20-67	[illegible].8 25.3
		Streams tributary to Lake Ontario				
*2332.5	Buttermilk Creek near Ithaca, N. Y.	Lat 42°25'02", long 7[illegible]°31'28", at bridge on State Highway 13, 0.2 mile upstream from mouth, and 2 miles south of Ithaca. Thompkins County.	11.3	1961-62, 1964-[illegible]	4-28-6[illegible]	11.[illegible]
2509.90	Woodhull Creek near Forestport, N. Y.	Lat 43°27'48", long [illegible]°10'22", at bridge on town highway, 2.2 miles northeast of Forestport, Oneida County, 2.4 miles upstream from Little Woodhull Creek, and 4.0 miles upstream from mouth and Forestport Reservoir.	70.2	1966-67	[illegible] 11-[illegible] [illegible]-67	44.7 [illegible] 44.9
2509.98	Alder Creek at Alder Creek, N. Y.	Lat 43°25'28", long 75°12'45", at culvert on State Highway 12, 0.1 mile northwest of Alder Creek, Oneida County, and 1.3 miles upstream from mouth.	4.7[illegible]	1967	[illegible] [illegible] [illegible] [illegible]-67 [illegible] [illegible] [illegible]-67	[illegible] [illegible] [illegible] [illegible] [illegible] 4.76 [illegible].62
2523.95	Cummings Creek near Hawkinsville, N. Y.	Lat 43°30'22", long 75°13'20", at bridge on County Highway 8 (Hawsback Road) 2.0 miles northeast of Hawkinsville, Oneida County, and 3 miles upstream from mouth.	5.93	1966-[illegible]	[illegible] [illegible] [illegible]-67 8-15-67 [illegible]-67	[illegible] [illegible] [illegible] 4.[illegible] [illegible]
2525.05	Mill Creek at Boonville, N. Y.	Lat 43°28'41", long 75°20'52", at bridge on State Highway 294, 0.7 mile southwest of Boonville, Oneida County, and 3.4 miles upstream from mouth.	4.[illegible]	1967	[illegible] 1[illegible]- 1-[illegible] 4-[illegible]-67 [illegible] [illegible]-67 [illegible]-67	[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
2530	Sugar River at Talcottville, N. Y.	Lat 43°32'08", long 75°22'03", at bridge on State Highway 12-D, 0.7 mile north of Talcottville, Lewis County.	41.5	19[illegible]‡ 19[illegible], 195[illegible]-61, 196[illegible]	1[illegible]	[illegible]
2530.05	Moose Creek near Talcottville, N. Y.	Lat 43°30'22", long 75°21'[illegible]9", at bridge on State Highway 12D, 1.6 miles upstream from mouth, and 2 miles southeast of Talcottville, Lewis County.	[illegible].4	19[illegible]	[illegible] [illegible] [illegible]-67	[illegible] [illegible] [illegible]
2549.00	Copper Creek at Fowlersville, N. Y.	Lat 43°37'27", long 75°15'[illegible]0", at bridge on town highway, 0.2 mile upstream from mouth, and 0.8 mile east of Fowlersville, Lewis County.	28.5	1967	1[illegible]- 7-66 [illegible]-67 9-29-67	18.[illegible] [illegible] [illegible]

* Also a crest-stage partial-record station.
‡ Operated as a continuous-record gaging station.

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Discharge measurements made at low-flow partial-record stations during water year 1974--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements Date	Measurements Discharge (cfs)
		Streams Tributary to Lake Ontario				
04234036	Lively Run at Interlaken Beach, N.Y.	Lat 42°37'48", long 76°41'17", Seneca County, 150 feet (46 m) upstream from mouth at Interlaken Beach.	1.97	1965-66 1970 1972 1974	6- 4-74	T
04234038	Sheldrake Creek at Sheldrake, N.Y.	Lat 42°39'54", long 76°42'06", Seneca County, at bridge on County Highway 153, at Sheldrake, and 0.1 mile (0.2 km) upstream from mouth.	8.39	1955 1965-66 1970-72 1974	6- 4-74	.76
04234048	Hicks Gully Creek at East Varick, N.Y.	Lat 42°44'43", long 76°46'14", Seneca County, at culvert on State Highway 89, 0.1 mile (0.2 km) upstream from mouth, and 1.7 miles (2.7 km) south of East Varick.	5.20	1965-66 1970-72 1974	6- 4-74	.30
04234053	Great Gully Brook near Union Springs, N.Y.	Lat 42°48'28", long 76°42'08", Cayuga County, at bridge on State Highway 90, 0.6 mile (1.0 km) upstream from mouth, and 1.7 miles (2.7 km) south of village boundary of Union Springs.	14.6	1965-66 1970-72 1974	6- 5-74	2.5
04234058	Yawger Creek near Union Springs, N.Y.	Lat 42°52'44", long 76°41'02", Cayuga County, at bridge on County Highway 48, 1.4 miles (2.3 km) north of town line of Union Springs, and 2.4 miles (3.9 km) upstream from mouth.	13.2	1964-66 1970-72 1974	6- 5-74	2.5
04235276	Black Brook at Tyre, N.Y.	Lat 42°59'30", long 76°48'12", Seneca County, at bridge on County Highway 101, in village of Tyre, and 0.8 mile (1.3 km) upstream from mouth.	19.0	1964-66 1970-72 1974	6- 5-74	2.6
04235281	Crane Brook at Montezuma, N.Y.	Lat 43°01'17", long 76°41'21", Cayuga County, at bridge on Wisley Road, 1.0 mile (1.6 km) northeast of Montezuma, and 1.7 miles (2.7 km) upstream from mouth.	45.4	1965-66 1970-72 1974	6- 5-74	9.6
04235293	Spring Lake Outlet at Spring Lake, N.Y.	Lat 43°07'36", long 76°41'10", Cayuga County, at culvert on Spring Lake Road, at Spring Lake, and 1.7 miles (2.7 km) upstream from mouth.	7.59	1965-66 1970-72 1974	6- 5-74	2.1
04250990	Woodhull Creek near Forestport, N.Y.	Lat 43°27'48", long 75°10'23", Oneida County, at bridge on dirt road 2.3 miles northeast of Forestport.	-	1973-74	8-29-74	93
04250998	Alder Creek at Alder Creek, N.Y.	Lat 43°25'28", long 75°13'45", Oneida County, at culvert on State Highway 12, 0.1 mile northwest of Alder Creek, and 1.3 miles upstream from mouth.	4.73	1967-68 1971-74	8-29-74	9.9
04252400	Cummings Creek at Hawkinsville, N.Y.	Lat 43°29'56", long 75°16'24", Oneida County, at bridge on town highway, 0.1 mile upstream from mouth, and 0.4 mile northeast of Hawkinsville.	23.2	1962-64 1973-74	8-29-74	33
04252505	Mill Creek at Boonville, N.Y.	Lat 43°28'41", long 75°20'52", Oneida County, at bridge on State Highway 294, 0.7 mile (1.1 km) southwest of Boonville, and 3.4 miles (5.5 km) upstream from mouth.	4.59	1967 1973-74	8-27-74	1.7
04253005	Moose Creek near Talcottville, N.Y.	Lat 43°30'22", long 75°21'09", Lewis County, at bridge on State Highway 12D, 1.6 miles (2.6 km) upstream from mouth, and 2.0 miles (3.2 km) southeast of Talcottville.	20.4	1966-67 1973-74	8-27-74	19
04254900	Copper Creek at Fowlersville, N.Y.	Lat 43°37'27", long 75°15'30", Lewis County, at bridge on town highway, 0.2 mile (0.3 km) upstream from mouth, and 0.8 mile (1.3 km) east of Fowlersville.	28.5	1967 1973-74	8-29-74	16
04254930	Mill Creek at Turin, N.Y.	Lat 43°37'42", long 75°24'43", Lewis County, at bridge on State Highway 12D, at Turin, and 2.7 miles (4.3 km) upstream from mouth.	6.42	1967-68 1971-74	8-28-74	2.1
04254960	Fish Creek at Greig, N.Y.	Lat 43°40'00", long 75°21'27", Lewis County, at bridge on River Road, 0.2 mile (0.3 km) upstream from mouth, and 0.6 mile (1.0 km) south of Greig.	22.7	1966-67 1973-74	8-28-74	16

APPENDIX D
REFERENCES

ADLER POND

APPENDIX D

REFERENCES

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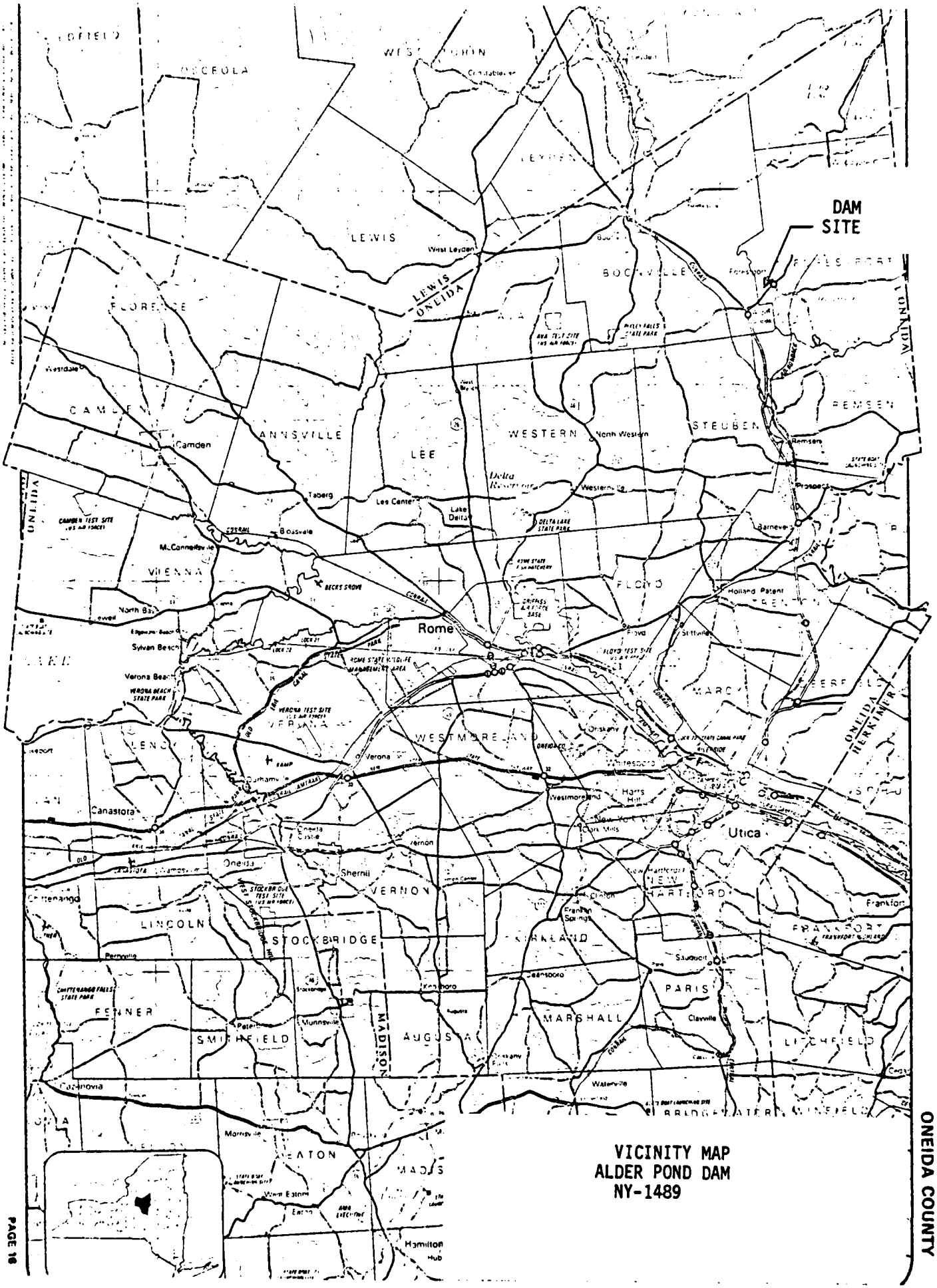
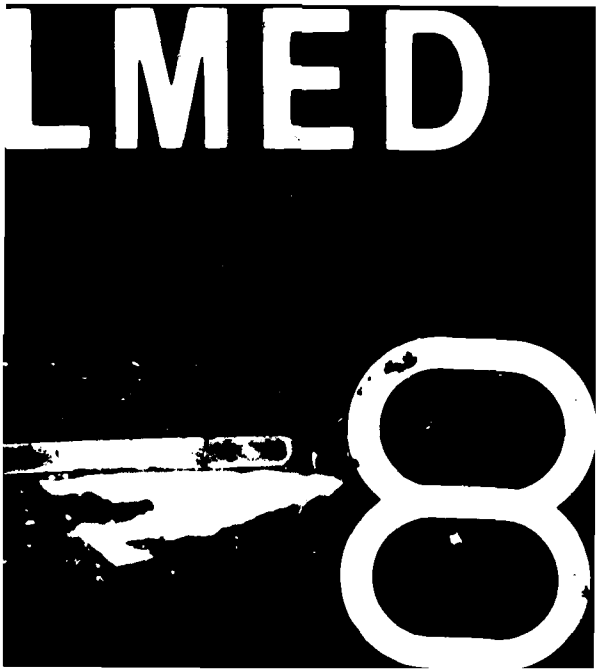
APPENDIX E
DRAWINGS



VICINITY MAP
ALDER POND DAM
NY-1489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